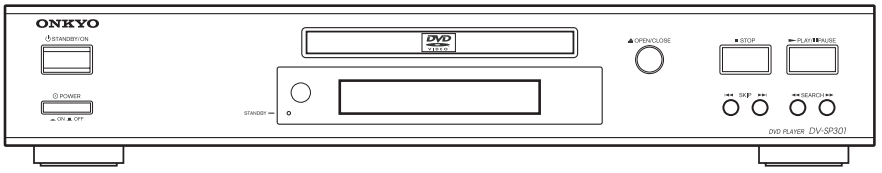
Ref. No. 3761
052003

ONKYO SERVICE MANUAL

DVD PLAYER
MODEL DV-SP301



RC-458DV

Black, Silver and Golden models

B UDD, S UDD	120V AC, 60Hz
B UUS, S UUS	230-240V AC, 50Hz
G UUK, G UUT	220-230V AC, 50/60Hz

SAFETY-RELATED COMPONENT WARNING!!

THE MARK ⚠ FOUND ON SOME COMPONENT PARTS INDICATES THE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK.
WHEN REPLACING, BE SURE TO USE PARTS OF IDENTICAL DESIGNATION.
MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

ONKYO®
IMAGINATIVE SIGHT & SOUND

SPECIFICATIONS

DVD Player

Power supply	AC120 V, 60 Hz (North America models) AC 110-240V, 50/60Hz (Other models)
Power consumption	16 W
Weight	8.2 lbs
External dimensions	17-1/8" x 3-7/8" x 12-11/16" (W/H/D)
Signal system	NTSC (North America models) PAL/NTSC (Other models)
Regional restriction code (region number)	Region 1 (North America) Region 4 (Central and South America and Australia)
Frequency range (digital audio) (DVD linear sound)	48 kHz sampling 4 Hz to 22 kHz 96 kHz sampling 4 Hz to 44 kHz
Signal-to-noise ratio (digital audio)	More than 90 dB
Audio dynamic range (digital audio)	More than 95 dB
Harmonic distortion (digital audio)	Less than 0.005 %
Wow and flutter	Below measurable level
Operating conditions	Temperature: 5˚C to 35˚C (41˚F to 95˚F) Operation status: Horizontal

Outputs

Video output	1.0 V (p-p), 75 W, negative sync., pin jack x 1
S-video output	(Y) 1.0 V (p-p), 75 W, negative sync., Mini DIN 4-pin x 1 (C) 0.286 V (p-p), 75 W
Component video output	(Y) 1.0 V (p-p), 75 W, negative sync., pin jack x 1 (P_B)/(P_R) 0.7 V (p-p), 75 W, pin jack x 2
Audio output (digital output Optical)	Optical connector x 1
Audio output (digital output Coaxial)	0.5 V (p-p), 75 W, pin jack x 1
Audio output (2-Channel Audio)	2.0 V (rms), 320 W, pin jack (L, R) x 1

Specifications and features are subject to change without notice.

SERVICE PROCEDURE

SAFETY CHECK

(Only U.S.A. model)
After correcting the original service problem perform the following safety check before releasing the set to the customer
Connect the insulating-resistance tester between the plug of power supply cord and terminal GND on the back panel.
Specifications: More than 10M ohm at 500V

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instruction in the literature accompanying the appliance.

LASER CAUTION

CAUTION
VISIBLE AND INVISIVLE LASER RADIATION WHEN OPEN DO NOT STARE INTO THE BEEM OR VIEW DIRECTLY WITH OPTICAL INSTRUMENTS.
DO NOT PRESS ON THIS SURFACE

This unit contains a semiconductor laser system and is classified as a "CLASS 1 LASER PRODUCT". So, to use this model properly, read this Instruction Manual carefully. In case of any trouble, please contact the store where you purchased the unit. To prevent being exposed to the laser beam, do not try to open the enclosure.

The label on the right is applied on the rear panel except for USA and Canadian models.

CAUTION:
VISIBLE LASER RADIATION WHEN OPEN AND INTERLOCK FAILED OR DEFEATED. DO NOT STARE INTO BEAM.

CAUTION:
THIS PRODUCT UTILIZES A LASER. USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

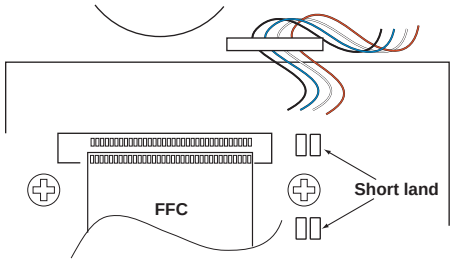
1. This unit is a CLASS 1 LASER PRODUCT and employs a laser inside the cabinet.
2. To prevent the laser from being exposed, do not remove the cover. Refer servicing to qualified personnel.

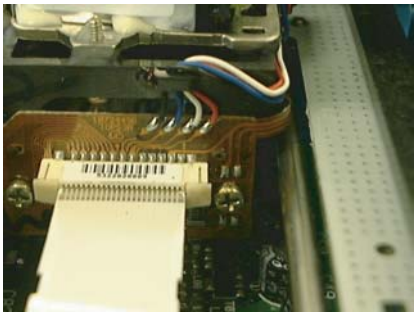
REPLACING THE FUSES

CIRCUIT NO.	PART NO.	DESCRIPTION
F1	0215002_M	Fuse, 250V 2A

1.Remove the solder of Laser Diode shorting

1-1 Remove the bracket magnet.
1-2 Shorting the short land with solder.
1-3 Remove the FFC (CC21) and other connectors.





2. Factory setting (Initial setting)

2-1 Push the power switch "ON" (Mechanical switch)
2-2 Press the [**STOP**] and [**STANDBY ON**] keys at same time, and
it waits until the display of FL tube will be the display of **"No Disc"** from "**Loading**".

SERVICE PROCEDURE-2

Replace the DVD mechanism

1. Remove the top cover (six screws)
2. Remove two screws of both side of front panel.
3. Remove the bracket mecha. (two screws).
4. Shift the cam slider on bottom side. (See Fig-1)
5. Remove the tray.
6. Remove FFC, connector and one screw (Mecha. GND wire).
7. A tray is drawn out extending a nail. (See Fig-2)
8. Remove two screws (3 x 6 upper side) and
   two screws (3 x 8 bottom side).

Bottom side

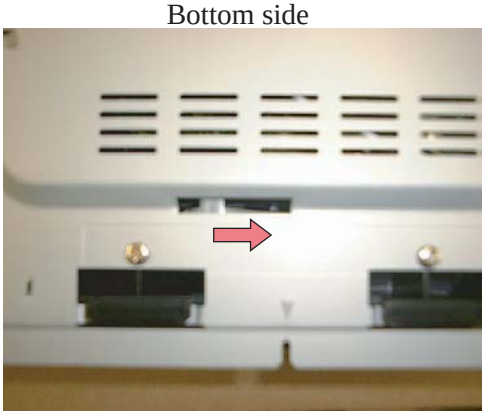
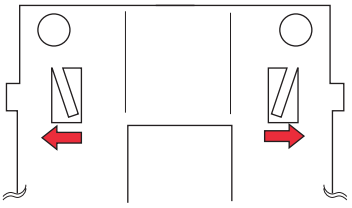
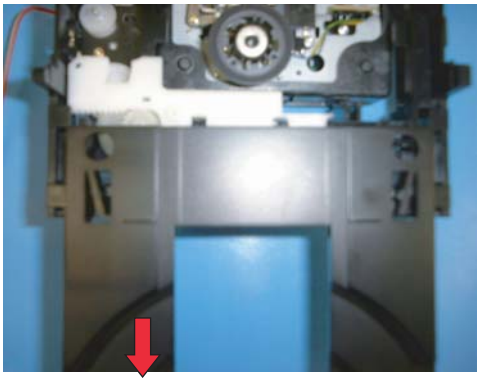


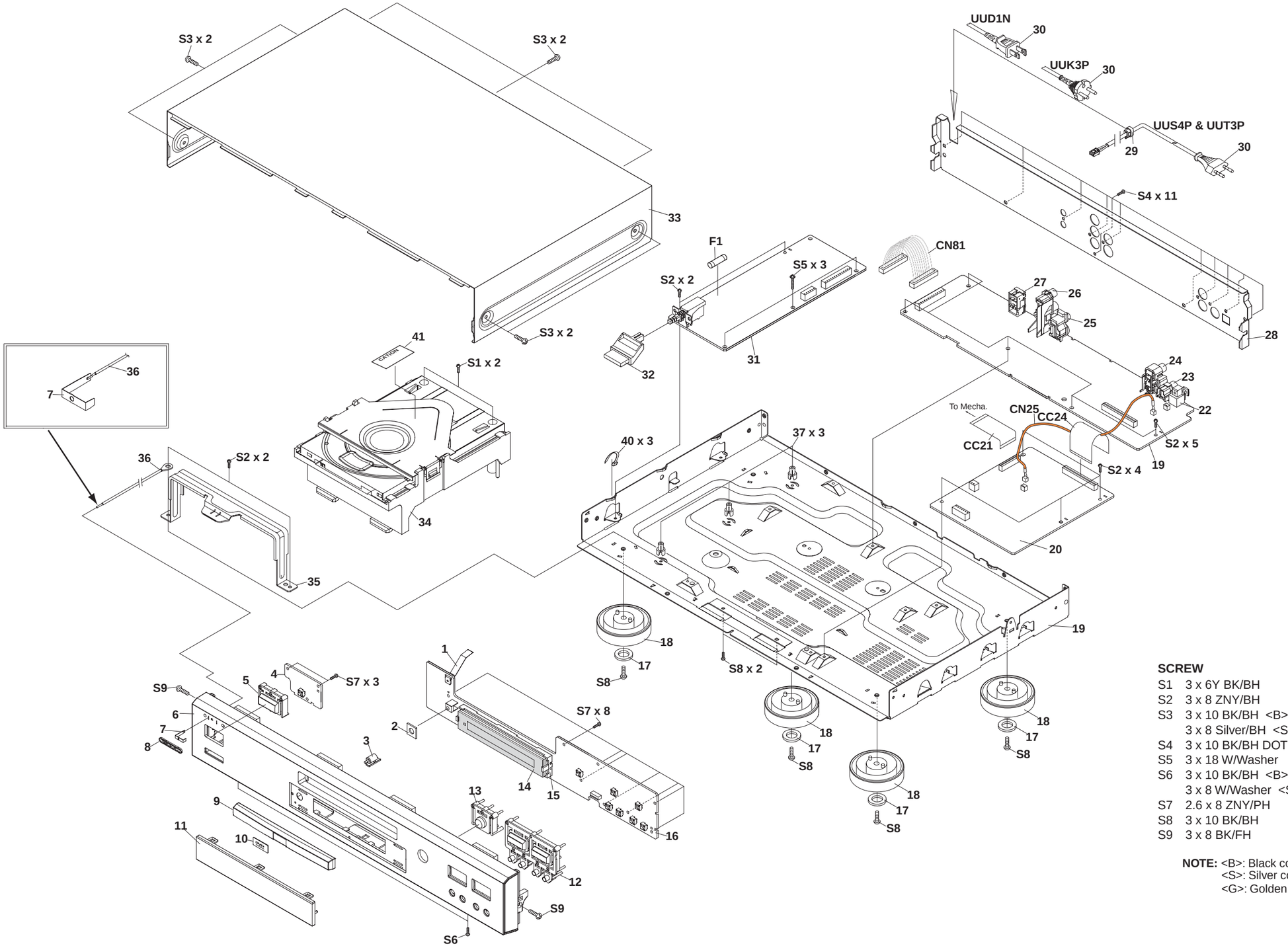
Fig-1





EXPLODED VIEW

CHASSIS



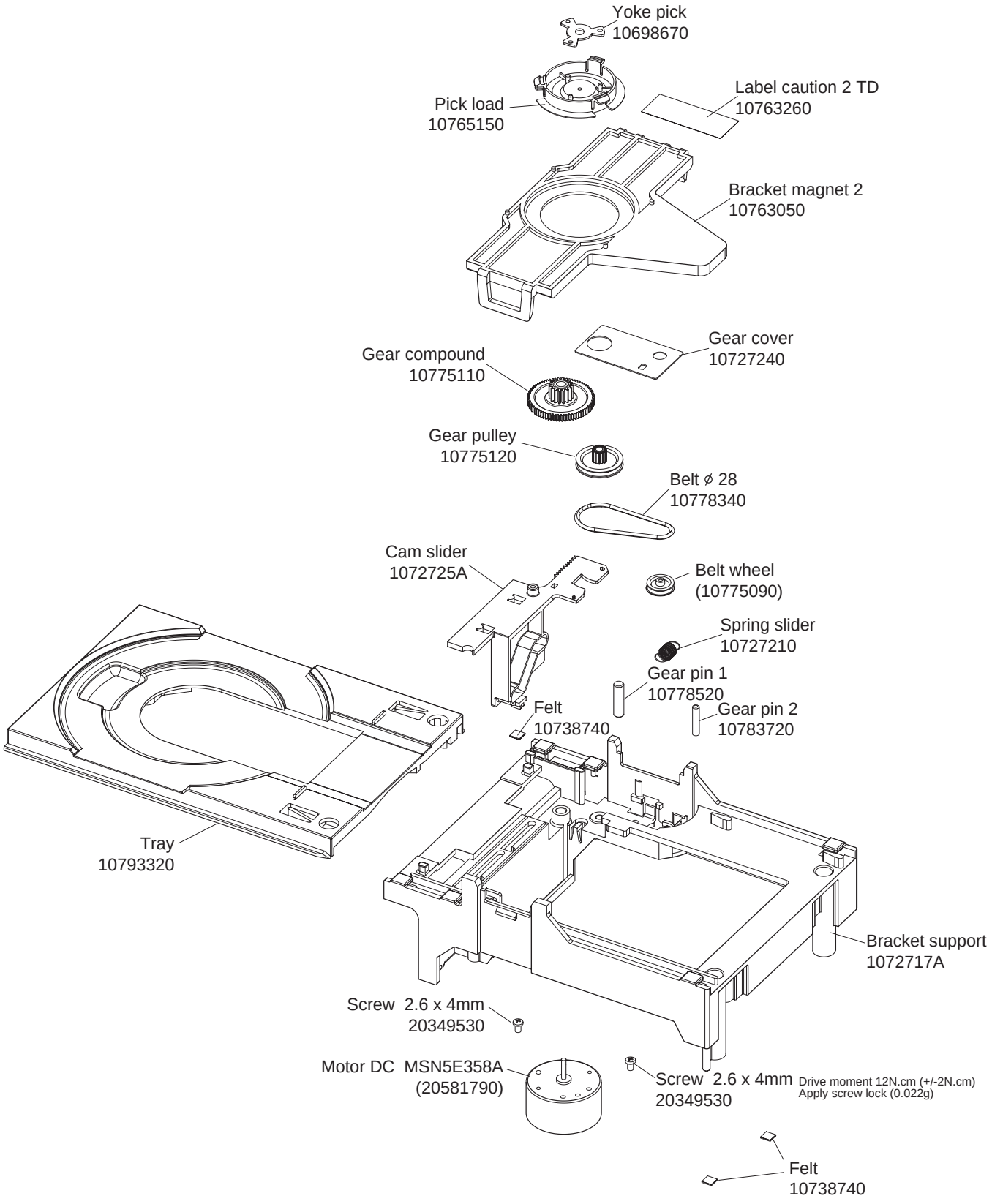
SCREW

S1	3 x 6Y BK/BH
S2	3 x 8 ZNY/BH
S3	3 x 10 BK/BH <B>
	3 x 8 Silver/BH <S> <G>
S4	3 x 10 BK/BH DOT
S5	3 x 18 W/Washer
S6	3 x 10 BK/BH <B>
	3 x 8 W/Washer <S> <G>
S7	2.6 x 8 ZNY/PH
S8	3 x 10 BK/BH
S9	3 x 8 BK/FH

NOTE: <B>: Black color
<S>: Silver color
<G>: Golden color

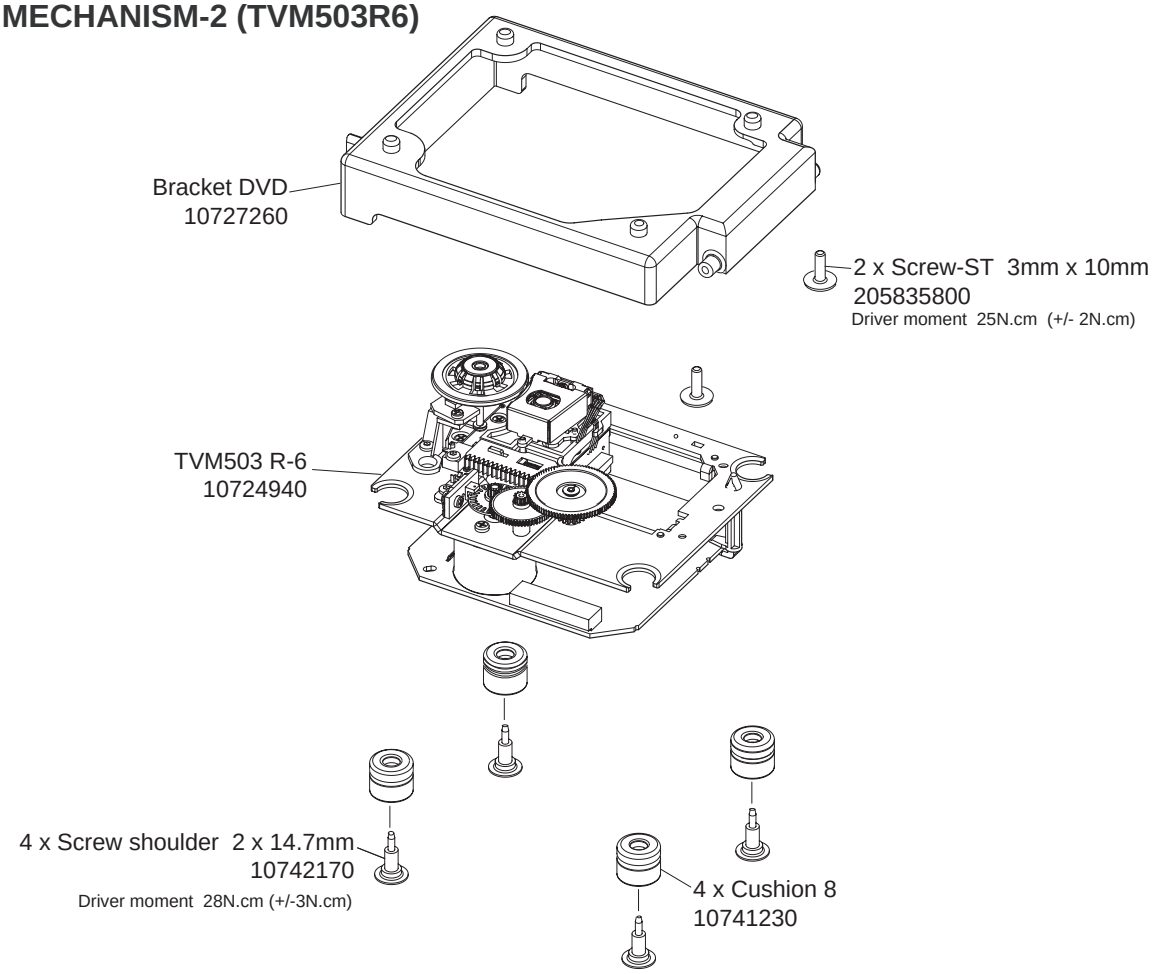
EXPLODED VIEW

DVD MECHANISM-1 (TVM503R6)



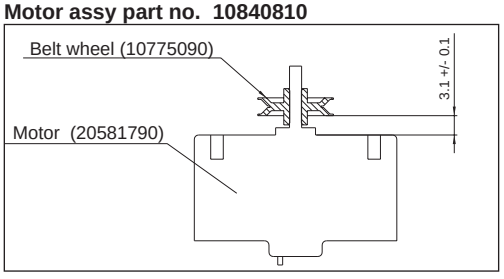
EXPLODED VIEW

DVD MECHANISM-2 (TVM503R6)

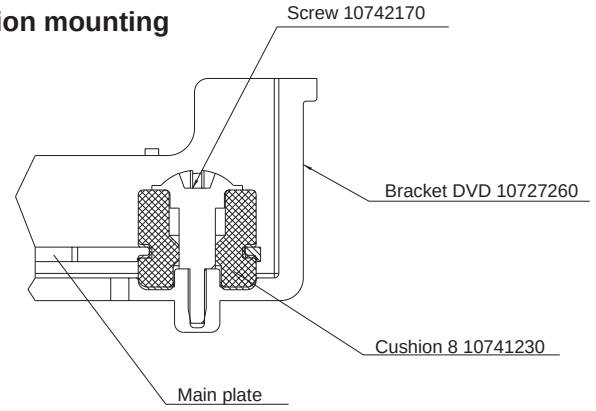


Belt wheel mounting

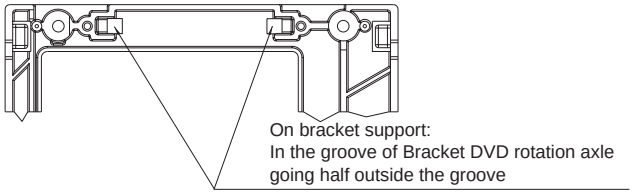
Motor assy part no. 10840810

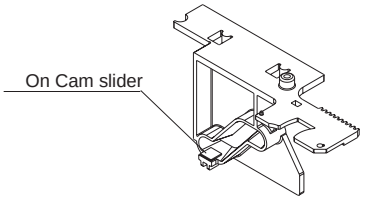


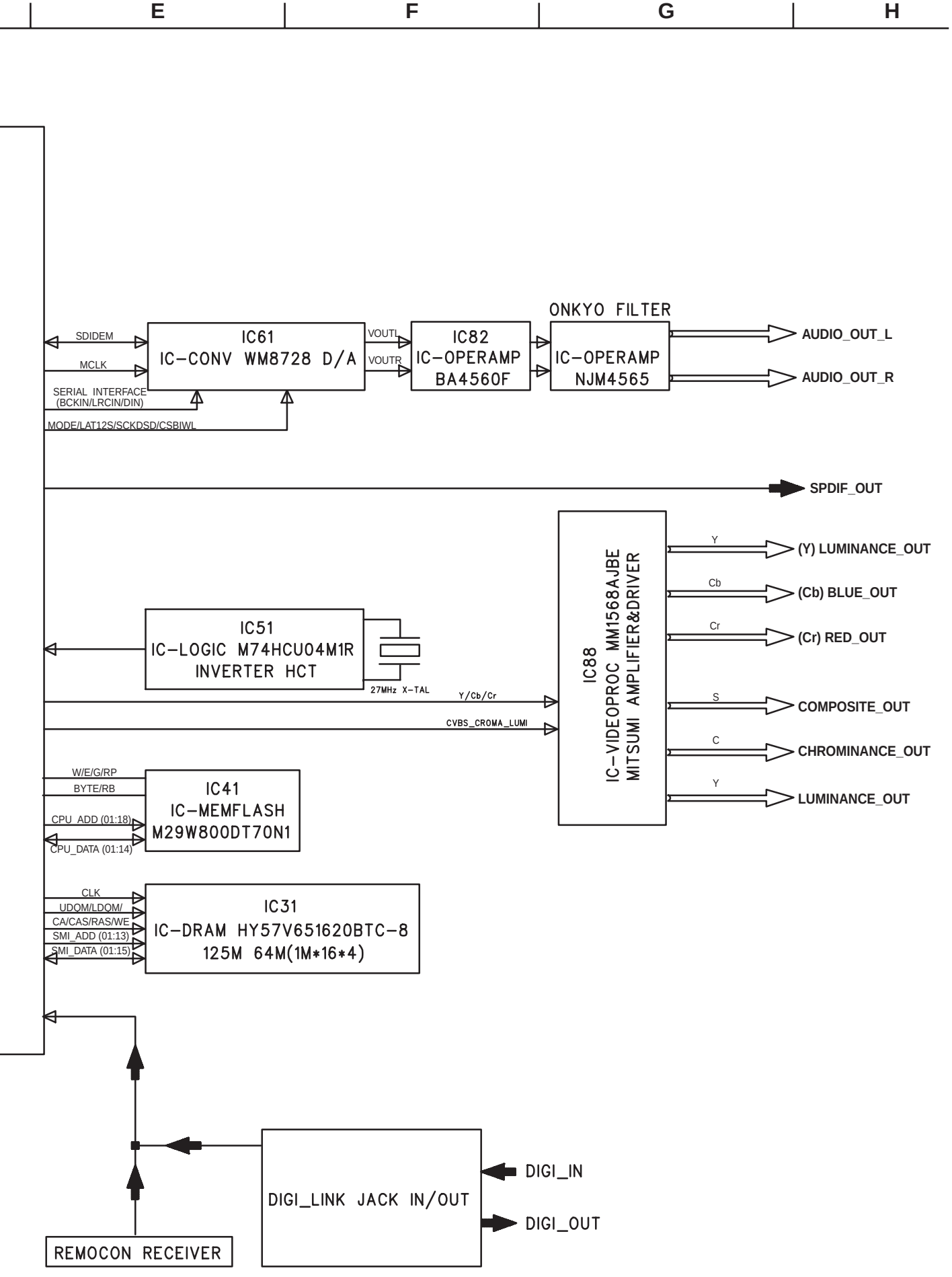
Cushion mounting



Felt position 10738740

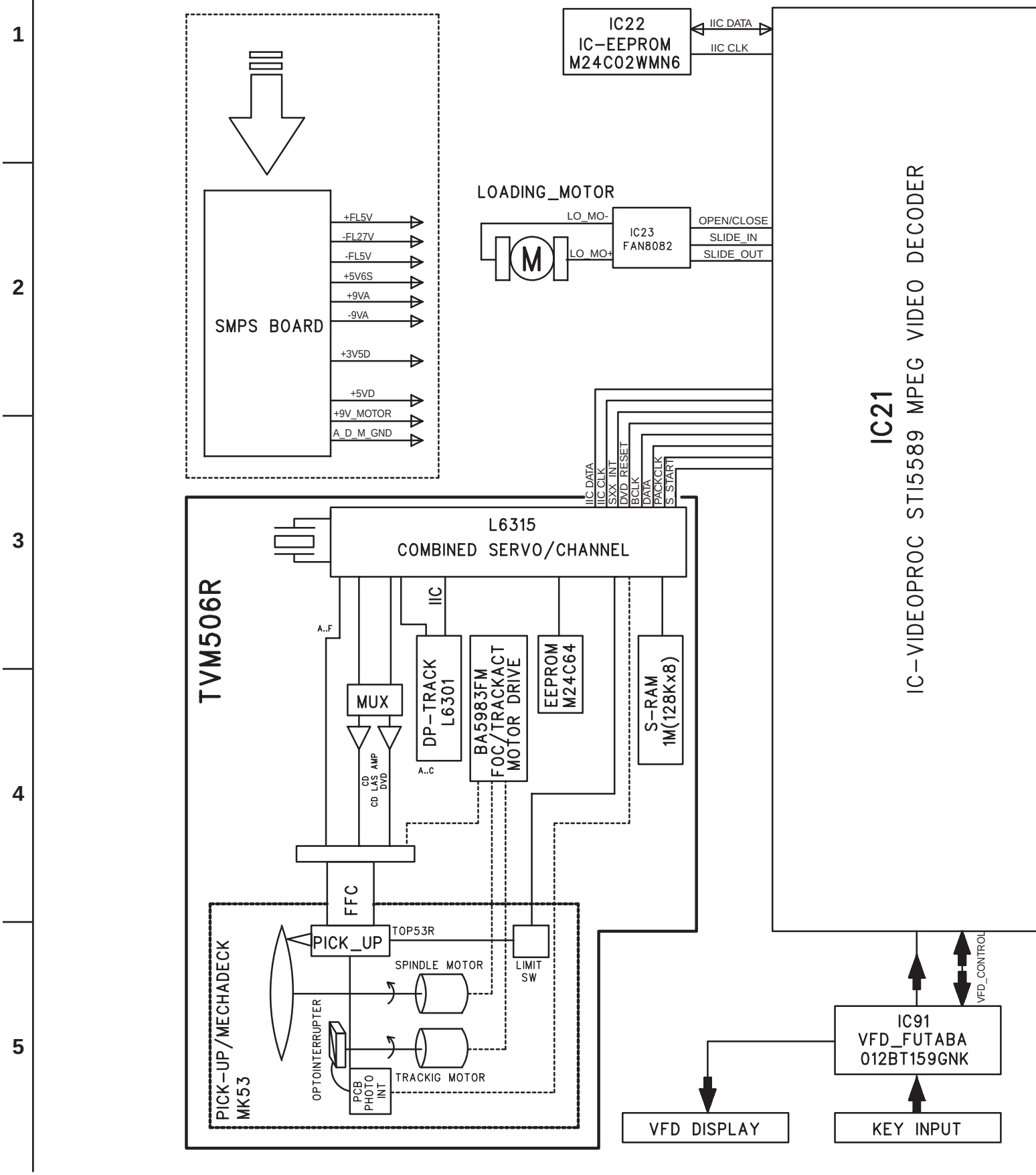





E
F
G
H
ONKYO FILTER
SDIDEM
MCLK
SERIAL INTERFACE
(BCKIN/LRCIN/DIN)
MODE/LAT12S/SCKDSD/CSBIWL
IC61
IC-CONV WM8728 D/A
VOUTL
VOUTR
IC82
IC-OPERAMP
BA4560F
IC-OPERAMP
NJM4565
AUDIO_OUT_L
AUDIO_OUT_R
SPDIF_OUT
IC51
IC-LOGIC M74HCU04M1R
INVERTER HCT
27MHz X-TAL
Y/Cb/Cr
CVBS_CROMA_LUMI
IC88
IC-VIDEOPROC MM1568AJBE
MITSUMI AMPLIFIER&DRIVER
Y
(Y) LUMINANCE_OUT
Cb
(Cb) BLUE_OUT
Cr
(Cr) RED_OUT
S
COMPOSITE_OUT
C
CHROMINANCE_OUT
Y
LUMINANCE_OUT
W/E/G/RP
BYTE/RB
CPU_ADD (01:18)
CPU_DATA (01:14)
IC41
IC-MEMFLASH
M29W800DT70N1
CLK
UDQM/LDQM/
CA/CAS/RAS/WE
SMI_ADD (01:13)
SMI_DATA (01:15)
IC31
IC-DRAM HY57V651620BTC-8
125M 64M(1M*16*4)
REMOCON RECEIVER
DIGI_LINK JACK IN/OUT
DIGI_IN
DIGI_OUT

BLOCK DIAGRAM

OVERALL



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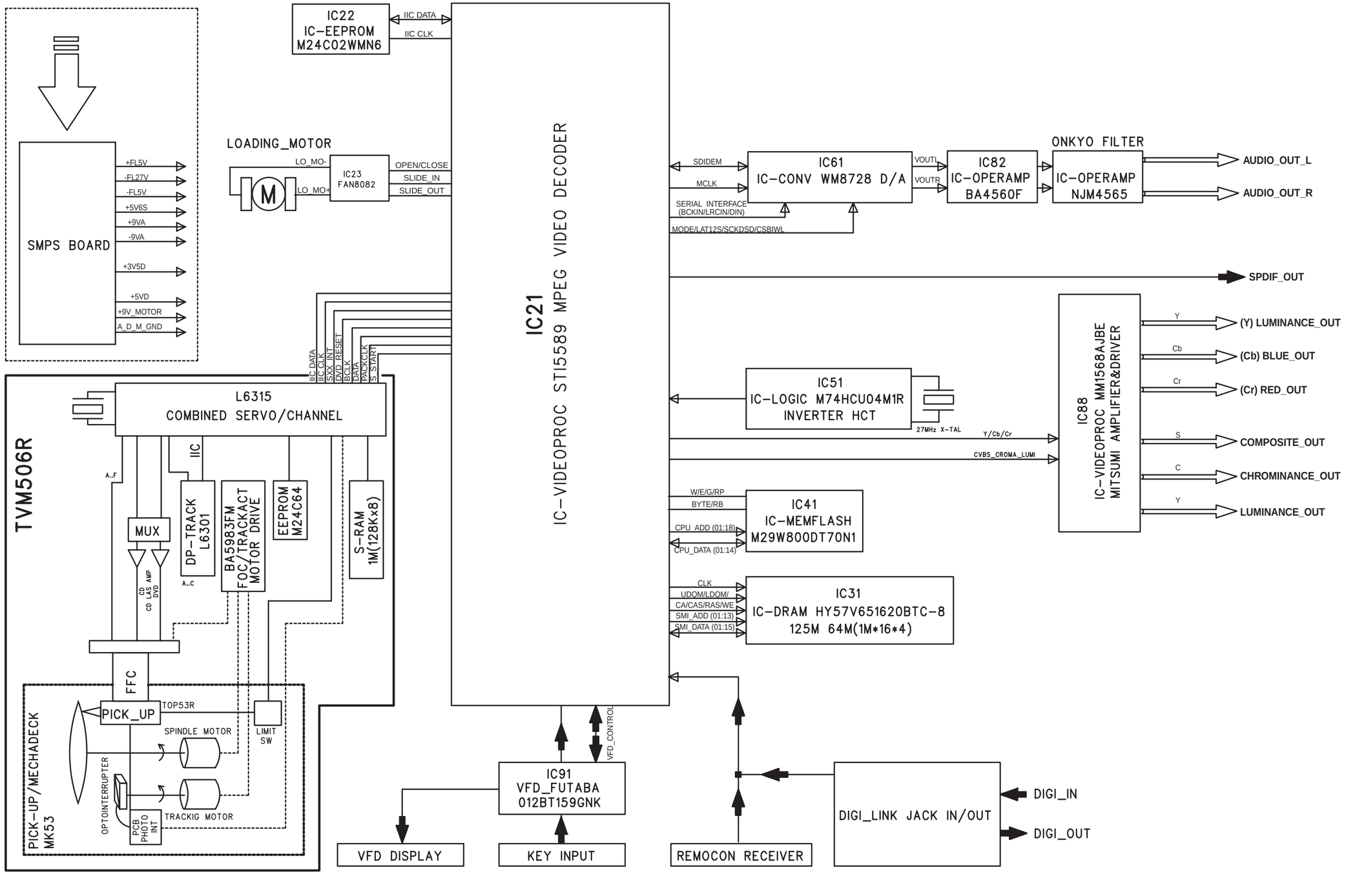
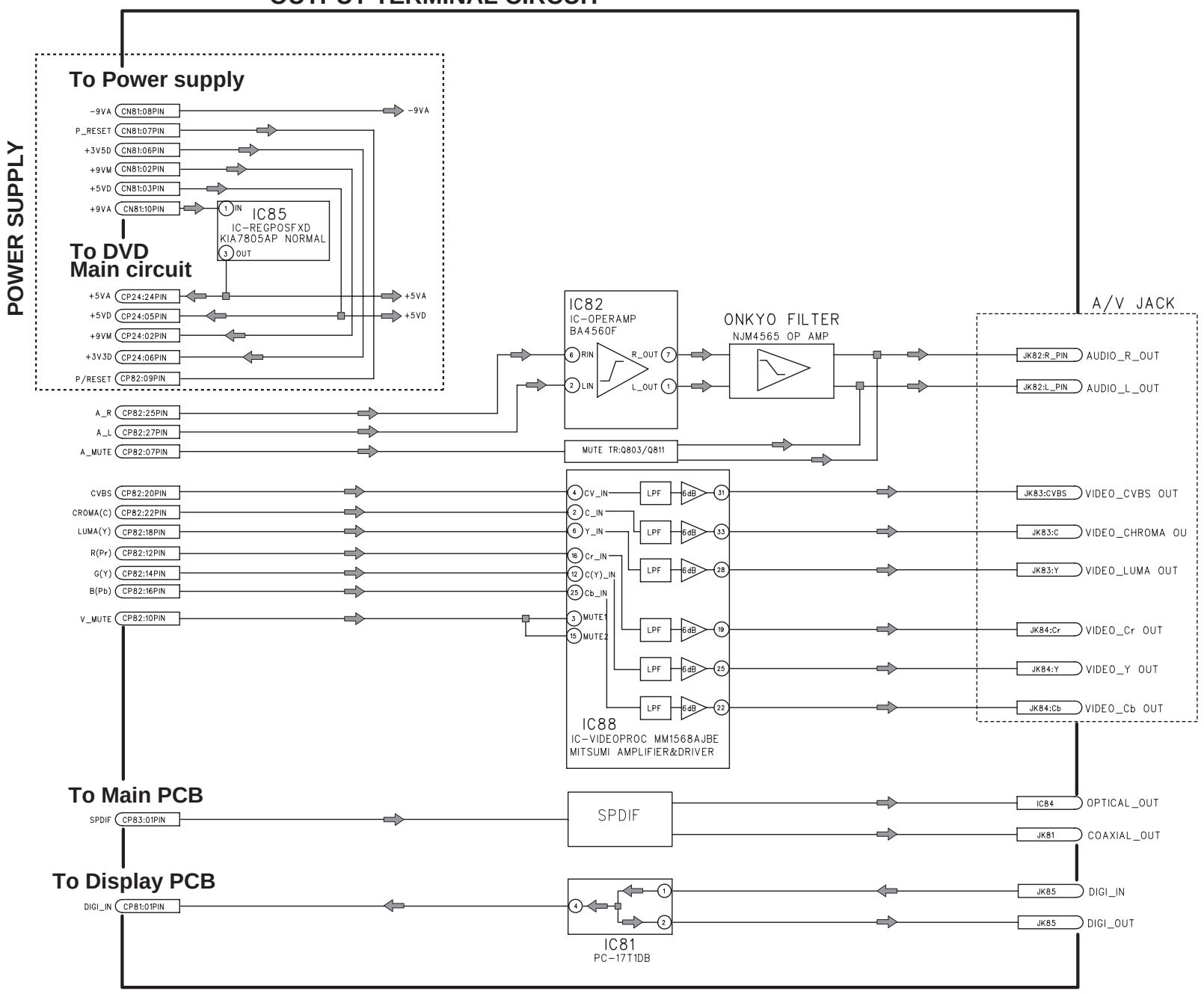
BLOCK DIAGRAM

OVERALL



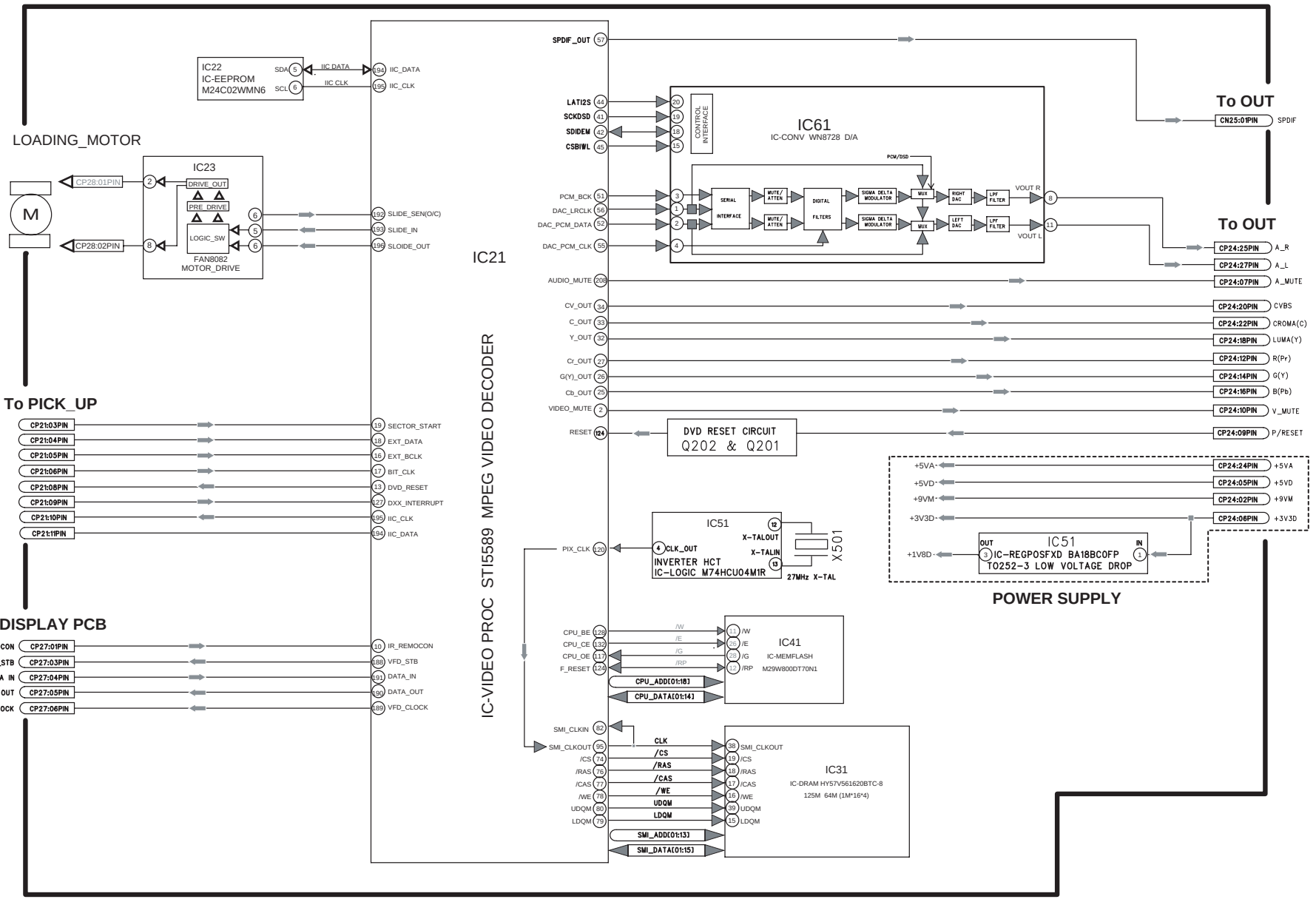
BLOCK DIAGRAM

OUTPUT TERMINAL CIRCUIT



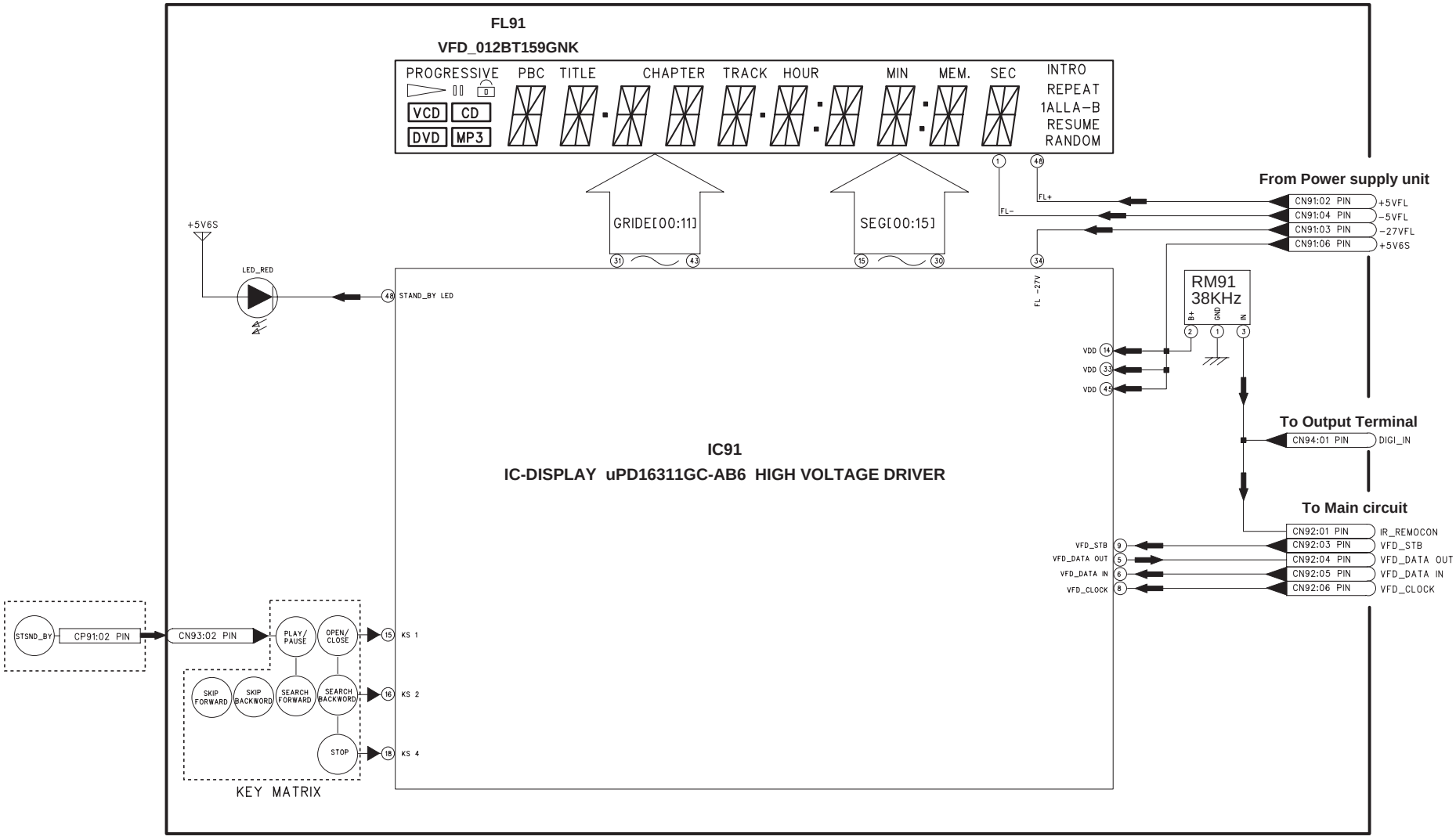
BLOCK DIAGRAM

DVD MAIN CIRCUIT



BLOCK DIAGRAM

DISPLAY CIRCUIT



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SCHEMATIC DIAGRA

MAIN CIRCUIT PC BOARD

A	B	C	D	E	F	G	H

1 2 3 4 5

IC21
STI5589

Sub EPROM

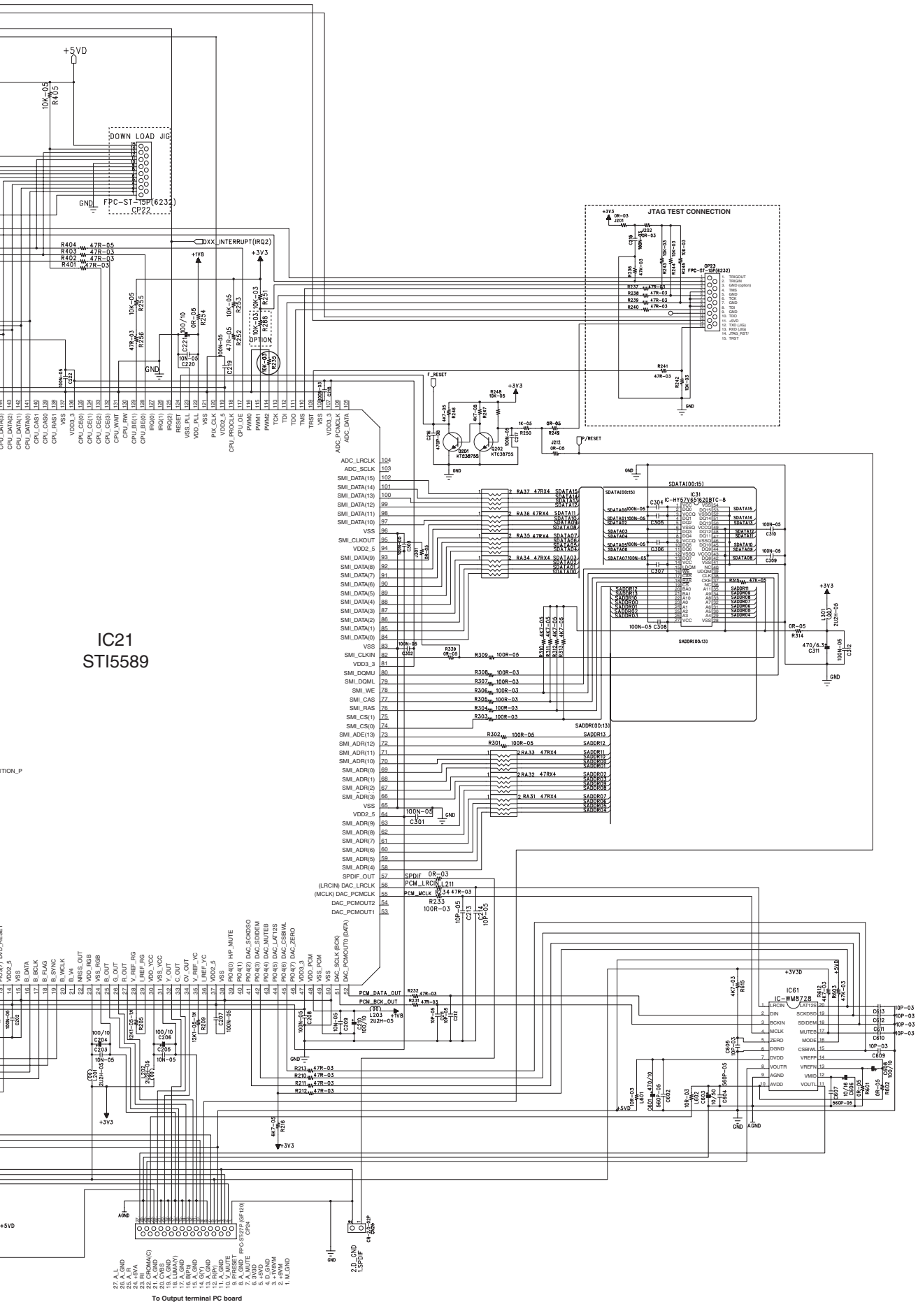
Motor Driver

IV8 OPTION

JTAG TEST CONNECTION

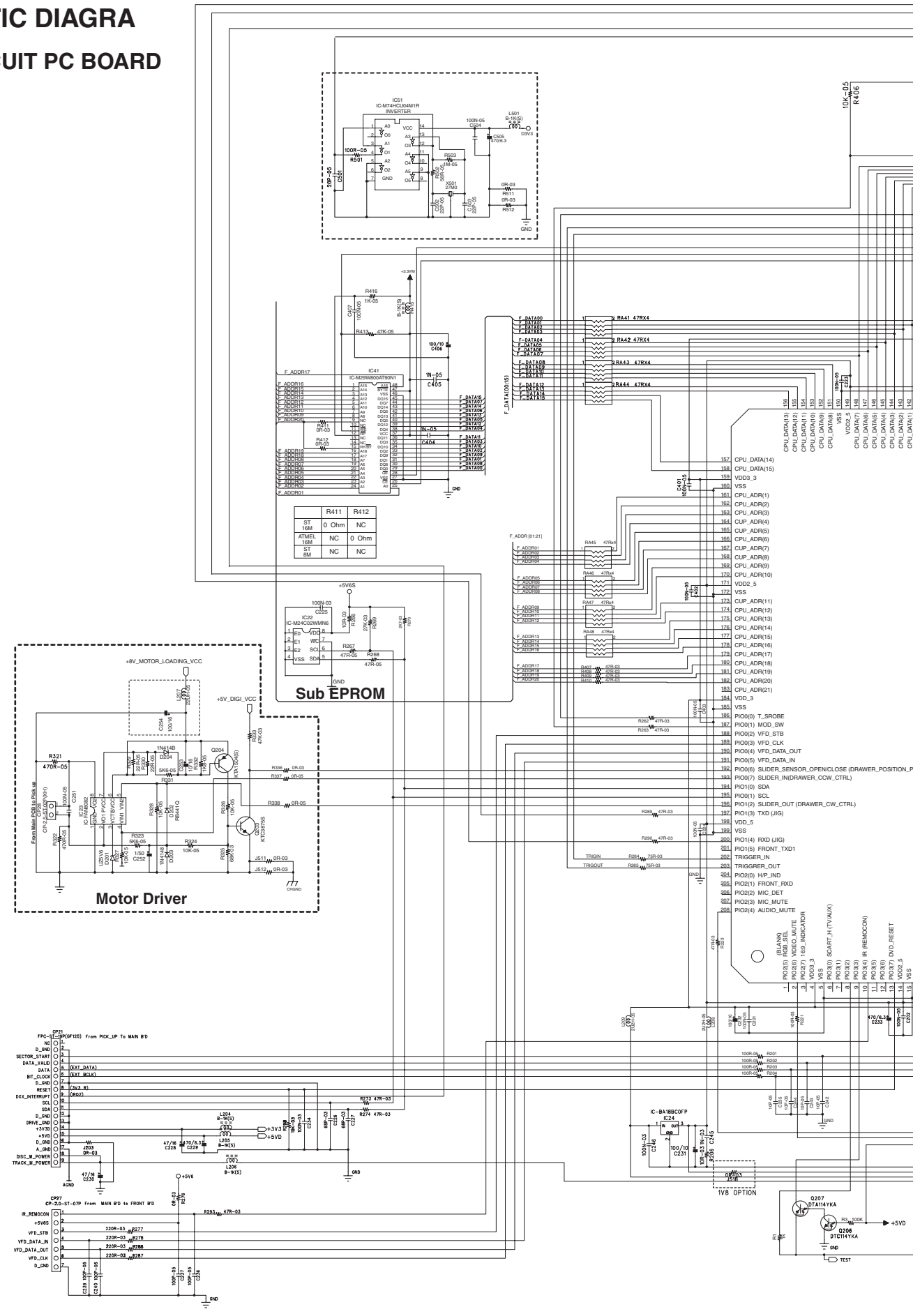
To Output terminal PC board

E F G H


IC21
STI5589
JTAG TEST CONNECTION
DOWN LOAD JIG
FPC-ST-15P(6232)
CP22
OPTION
IC31
IC-HY57V651620BTC-8
IC61
IC-WM8728
SDATA(00:15)
SADDR(00:13)
DXX_INTERRUPT(IRQ2)
F_RESET
P/RESET
SPDIF
PCM_LRCK
PCM_MCLK
PCM_DATA_OUT
PCM_BCK_OUT
To Output terminal PC board

SCHEMATIC DIAGRA

MAIN CIRCUIT PC BOARD



DV-SP301

SCHEMATIC DIAGRAM

OUTPUT TERMINAL PC BOARD

From POWER SUPPLY UNIT

From MAIN CIRCUIT PC BOARD

VIDEO OUT

S-VIDEO OUT

OPTICAL OUT

COAXIAL OUT

L

R

Cr

Cb

Y

RI

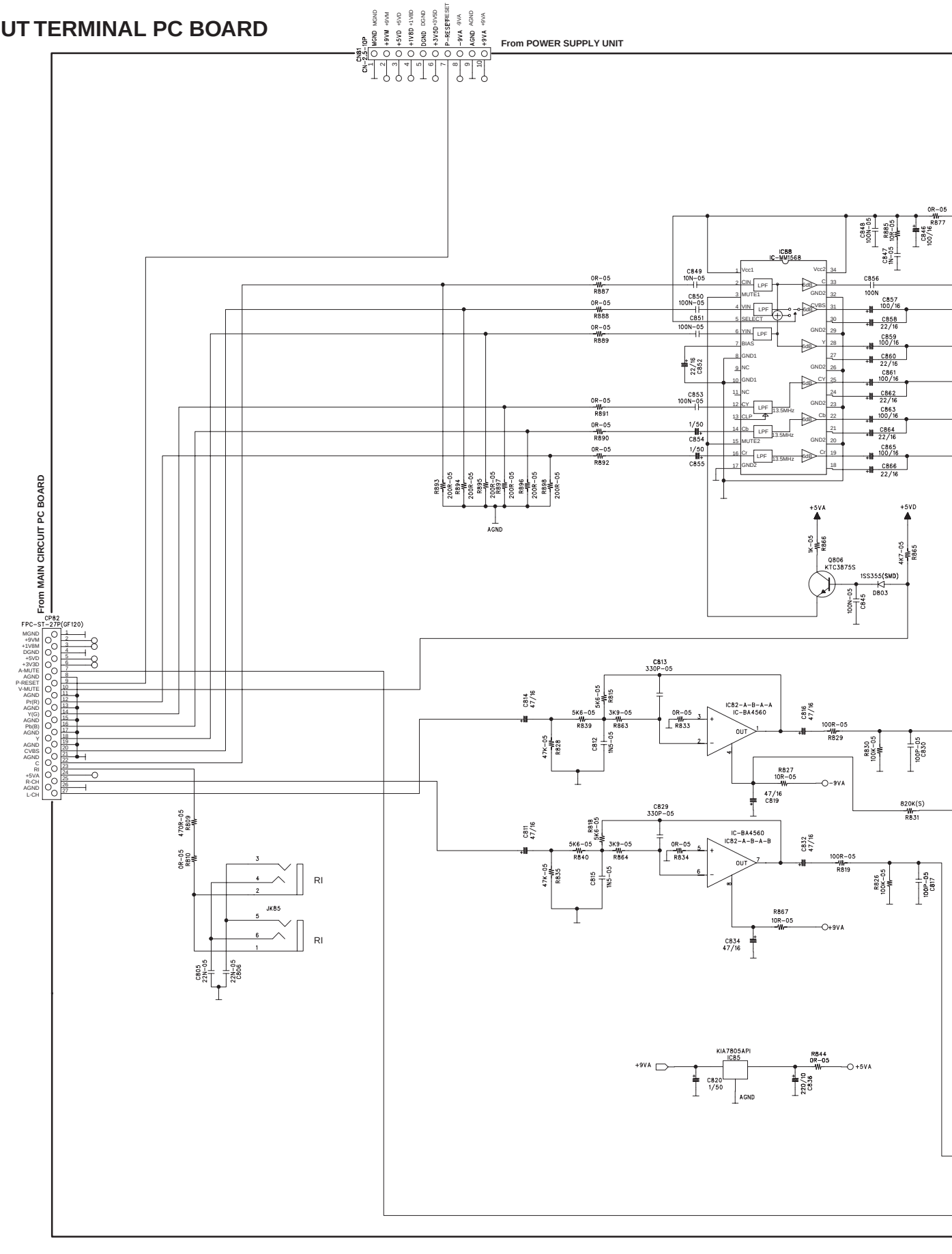
RI

FROM MAIN

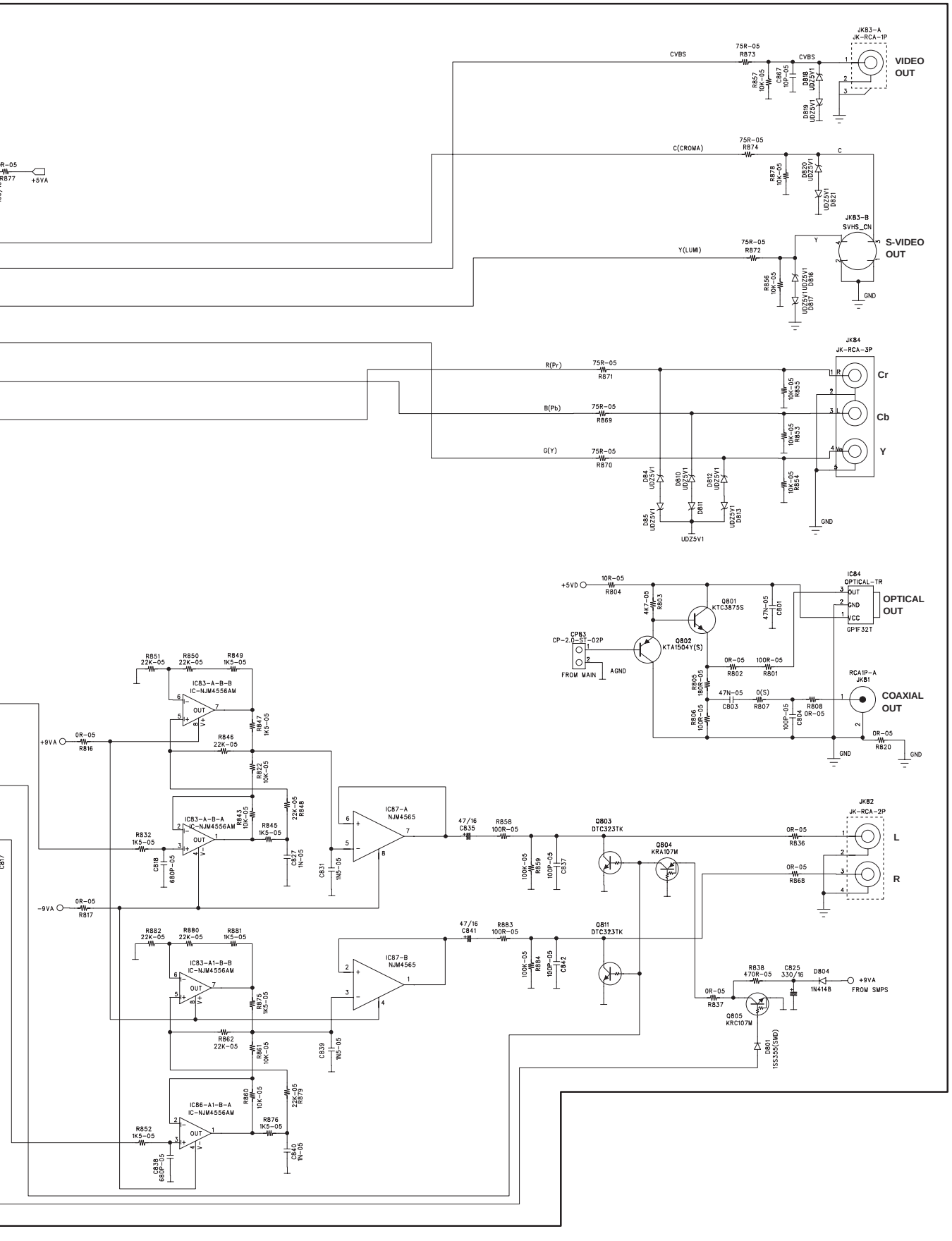
FROM SMPS

SCHEMATIC DIAGRAM

OUTPUT TERMINAL PC BOARD



E F G H


JKB3-A
JK-RCA-1P
VIDEO OUT
CVBS
75R-05 R873
C867 10P-05
D818 UDZ5V1
D819 UDZ5V1
C(CROMA)
75R-05 R874
R878 10K-05
D820 UDZ5V1
D821 UDZ5V1
JKB3-B
SVHS_CN
S-VIDEO OUT
Y(LUMI)
75R-05 R872
R856 10K-05
D816 UDZ5V1
D817 UDZ5V1
GND
JKB4
JK-RCA-3P
Cr
Cb
Y
R(Pr)
B(Pb)
G(Y)
75R-05 R871
75R-05 R869
75R-05 R870
R855 10K-05
R853 10K-05
R854 10K-05
D84 UDZ5V1
D810 UDZ5V1
D812 UDZ5V1
D85 UDZ5V1
D811
D813 UDZ5V1
UDZ5V1
GND
+5VD
10R-05 R804
4K7-05 R803
Q801 KTC3875S
47N-05 C801
IC84
OPTICAL-TR
OUT
GND
VCC
GP1F32T
OPTICAL OUT
CPB3
CP-2.0-ST-02P
FROM MAIN
AGND
Q802 KTA1504Y(S)
0R-05 R802
100R-05 R801
R805 180R-05
R806 100R-05
47N-05 C803
0(S) R807
R808 0R-05
100P-05 C804
RCA1P-A
JK81
COAXIAL OUT
0R-05 R820
GND
+9VA
0R-05 R816
-9VA
0R-05 R817
R851 22K-05
R850 22K-05
R849 1K5-05
IC83-A-B-B
IC-NJM4556AM
R847 1K5-05
R846 22K-05
R822 10K-05
IC83-A-B-A
IC-NJM4556AM
R843 10K-05
R845 1K5-05
R832 1K5-05
C818 680P-05
C827 1N-05
R848 22K-05
IC87-A
NJM4565
C831 1N5-05
47/16 C835
R858 100R-05
Q803 DTC323TK
Q804 KRA107M
100K-05 R859
100P-05 C837
JKB2
JK-RCA-2P
0R-05 R836
0R-05 R868
L
R
R882 22K-05
R880 22K-05
R881 1K5-05
IC83-A1-B-B
IC-NJM4556AM
R875 1K5-05
R862 22K-05
R861 10K-05
C839 1N5-05
IC87-B
NJM4565
47/16 C841
R883 100R-05
Q811 DTC323TK
100K-05 R884
100P-05 C842
R838 470R-05
C825 330/16
D804 1N4148
+9VA FROM SMPS
0R-05 R837
Q805 KRC107M
D801 1SS355(SMD)
IC86-A1-B-A
IC-NJM4556AM
R850 10K-05
R876 1K5-05
R852 1K5-05
C838 680P-05
C840 1N-05
R879 22K-05

DV-SP301

SCHEMATIC DIAGRAM

OUTPUT TERMINAL PC BOARD

From POWER SUPPLY UNIT

From MAIN CIRCUIT PC BOARD

VIDEO OUT

S-VIDEO OUT

OPTICAL OUT

COAXIAL OUT

L

R

Cr

Cb

Y

RI

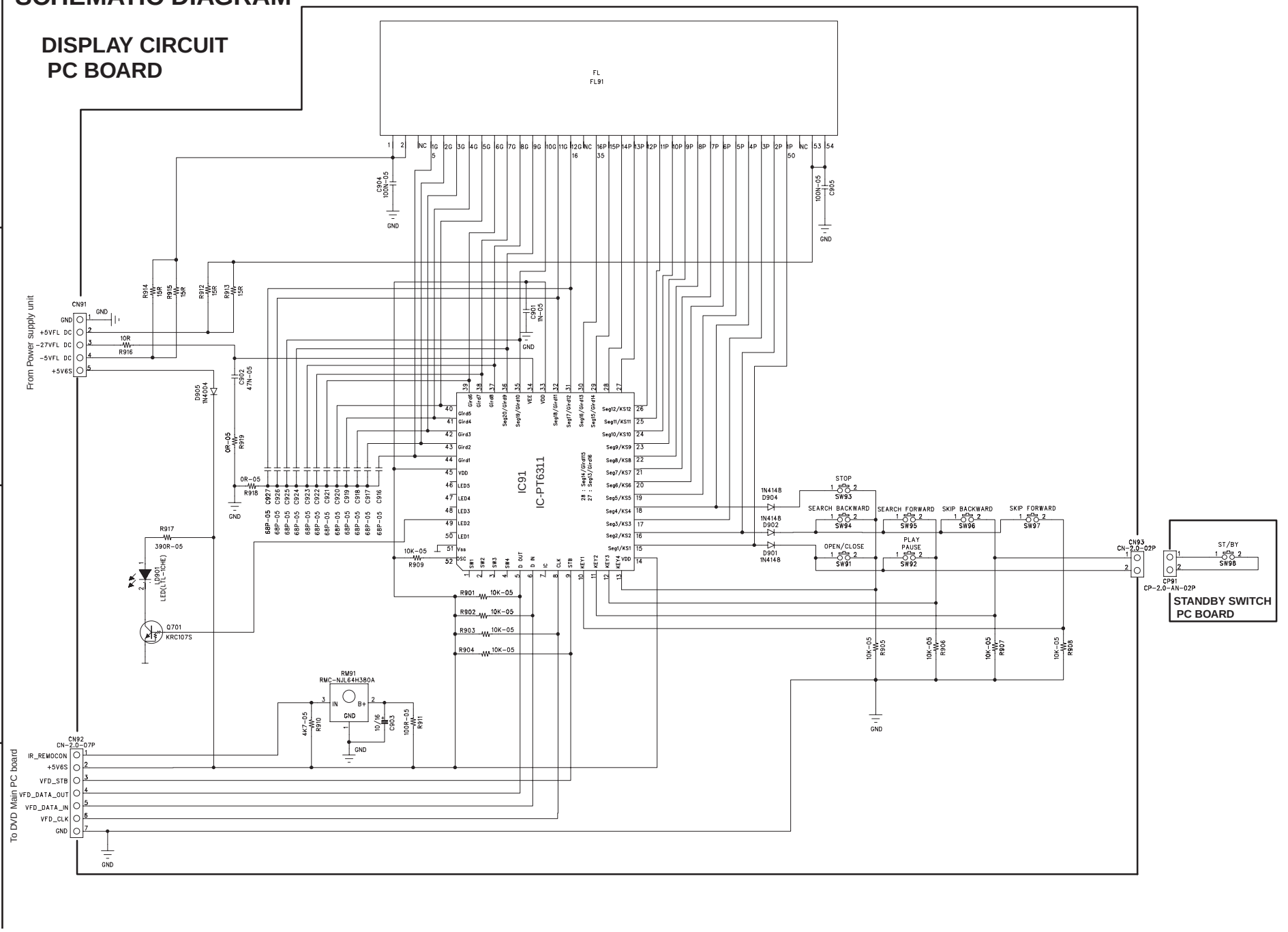
RI

FROM MAIN

FROM SMPS

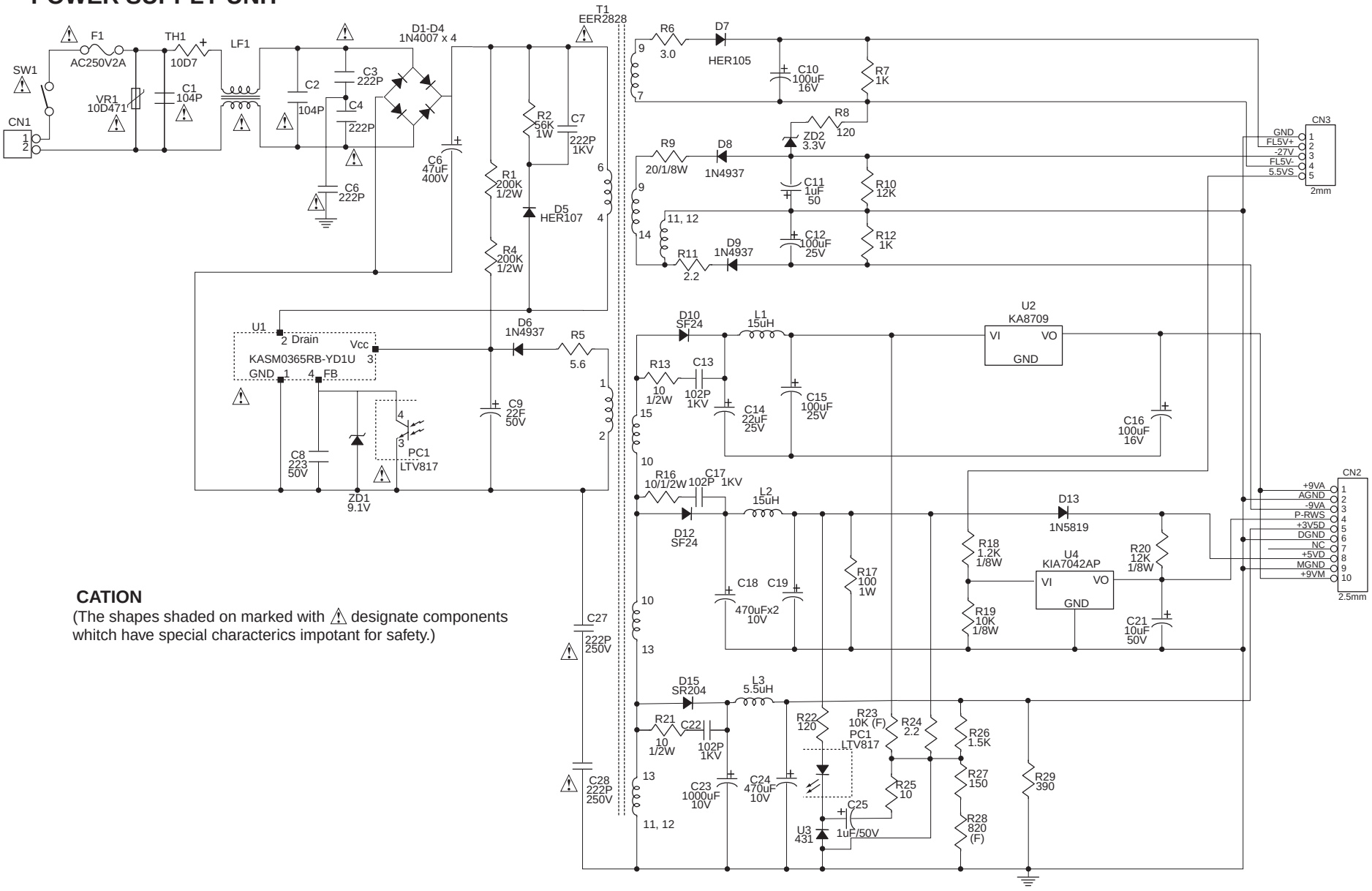
SCHEMATIC DIAGRAM

DISPLAY CIRCUIT
PC BOARD



SCHEMATIC DIAGRAM

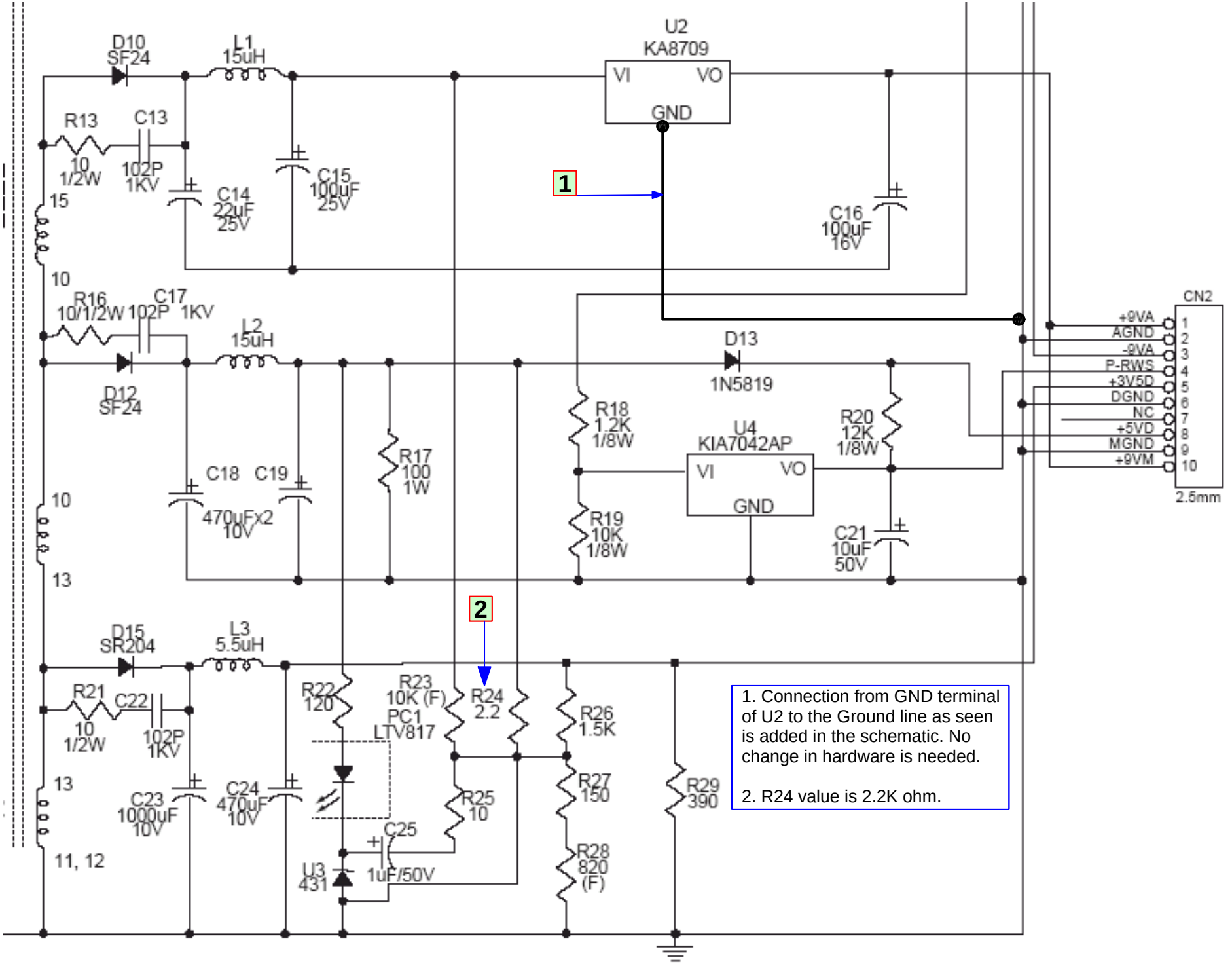
POWER SUPPLY UNIT



CATION

(The shapes shaded on marked with ⚠ designate components whitch have special characterics impotant for safety.)

Model: DV-SP301 **Subject: Correction of service manual.** **Ref#SP301-030204** **03/01/2004**

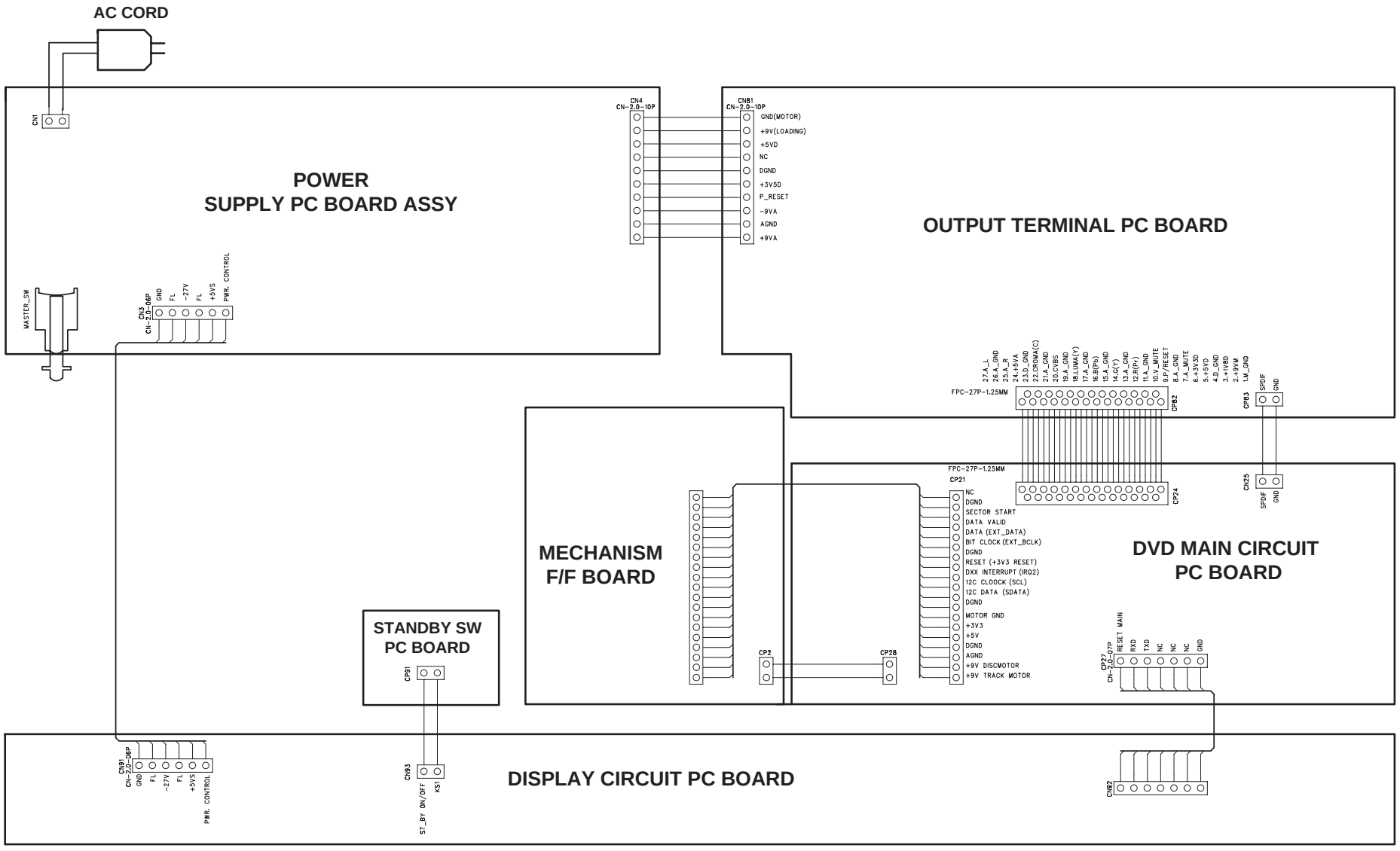


1. Connection from GND terminal of U2 to the Ground line as seen is added in the schematic. No change in hardware is needed.

2. R24 value is 2.2K ohm.

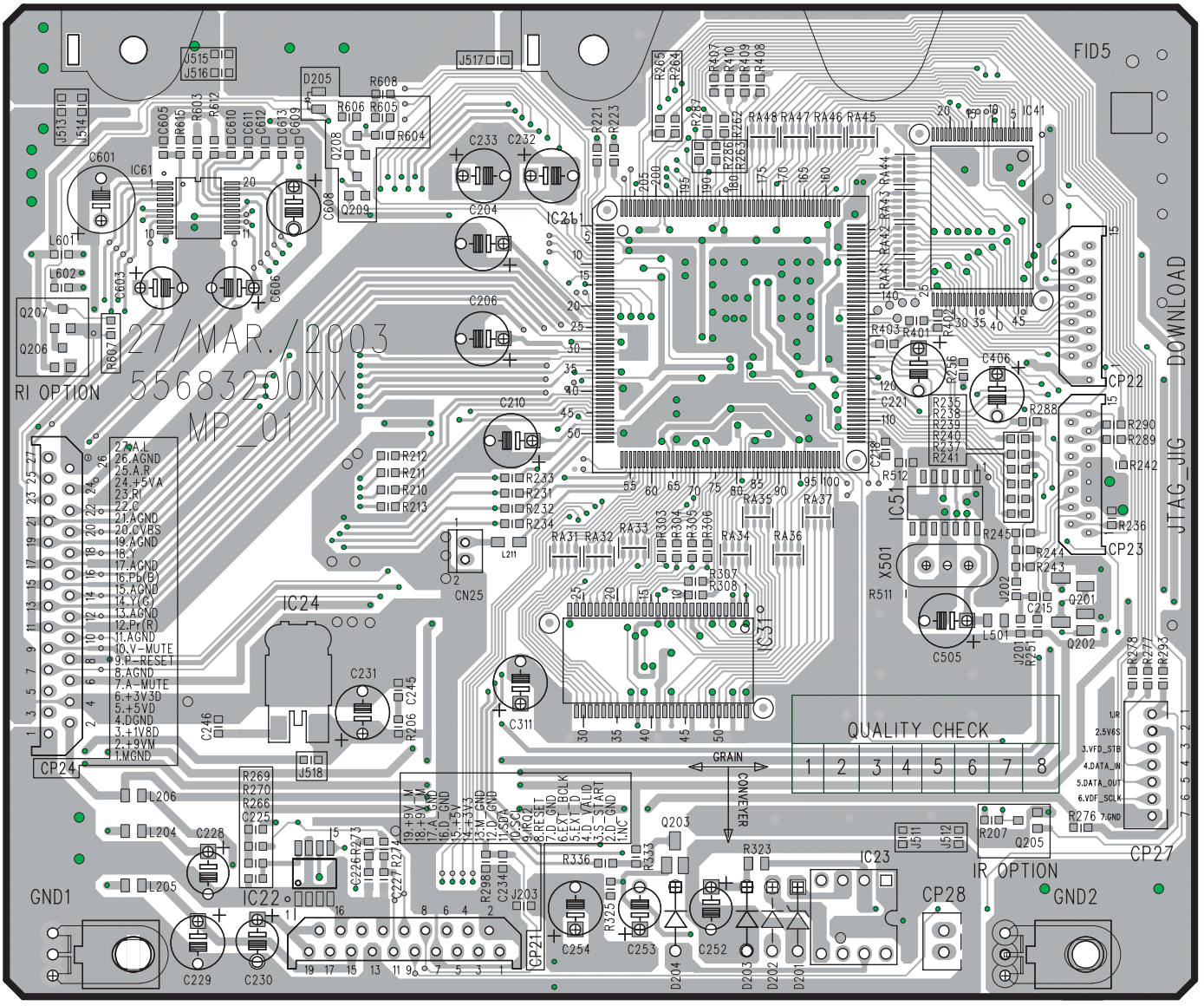
DV-SP301 Service Manual Correction

WIRING VIEW


AC CORD
CN1
POWER
SUPPLY PC BOARD ASSY
CN4
CN-2.0-10P
CNB1
CN-2.0-10P
GND(MOTOR)
+9V(LOADING)
+5VD
NC
DGND
+3V5D
P_RESET
-9VA
AGND
+9VA
OUTPUT TERMINAL PC BOARD
MASTER_SW
CN3
CN-2.0-6P
GND
FL
-27V
FL
+5VS
PWR. CONTROL
FPC-27P-1.25MM
CP82
CP83
SPDIF
GND
CN25
CP24
CP21
MECHANISM
F/F BOARD
NC
DGND
SECTOR START
DATA VALID
DATA (EXT_DATA)
BIT CLOCK (EXT_BCLK)
DGND
RESET (+3V3 RESET)
DVX INTERRUPT (IRQ2)
I2C CLOCCK (SCL)
I2C DATA (SDATA)
DGND
MOTOR GND
+3V3
+5V
DGND
AGND
+9V DISCMOTOR
+9V TRACK MOTOR
CP2
CP28
DVD MAIN CIRCUIT
PC BOARD
CP27
CN-2.0-7P
RESET MAIN
RXD
TXD
NC
NC
NC
GND
STANDBY SW
PC BOARD
CP91
CN91
CN-2.0-6P
GND
FL
-27V
FL
+5VS
PWR. CONTROL
CN93
ST_BY ON/OFF
KS1
DISPLAY CIRCUIT PC BOARD
CN92

PRINTED CIRCUIT BOARD VIEW

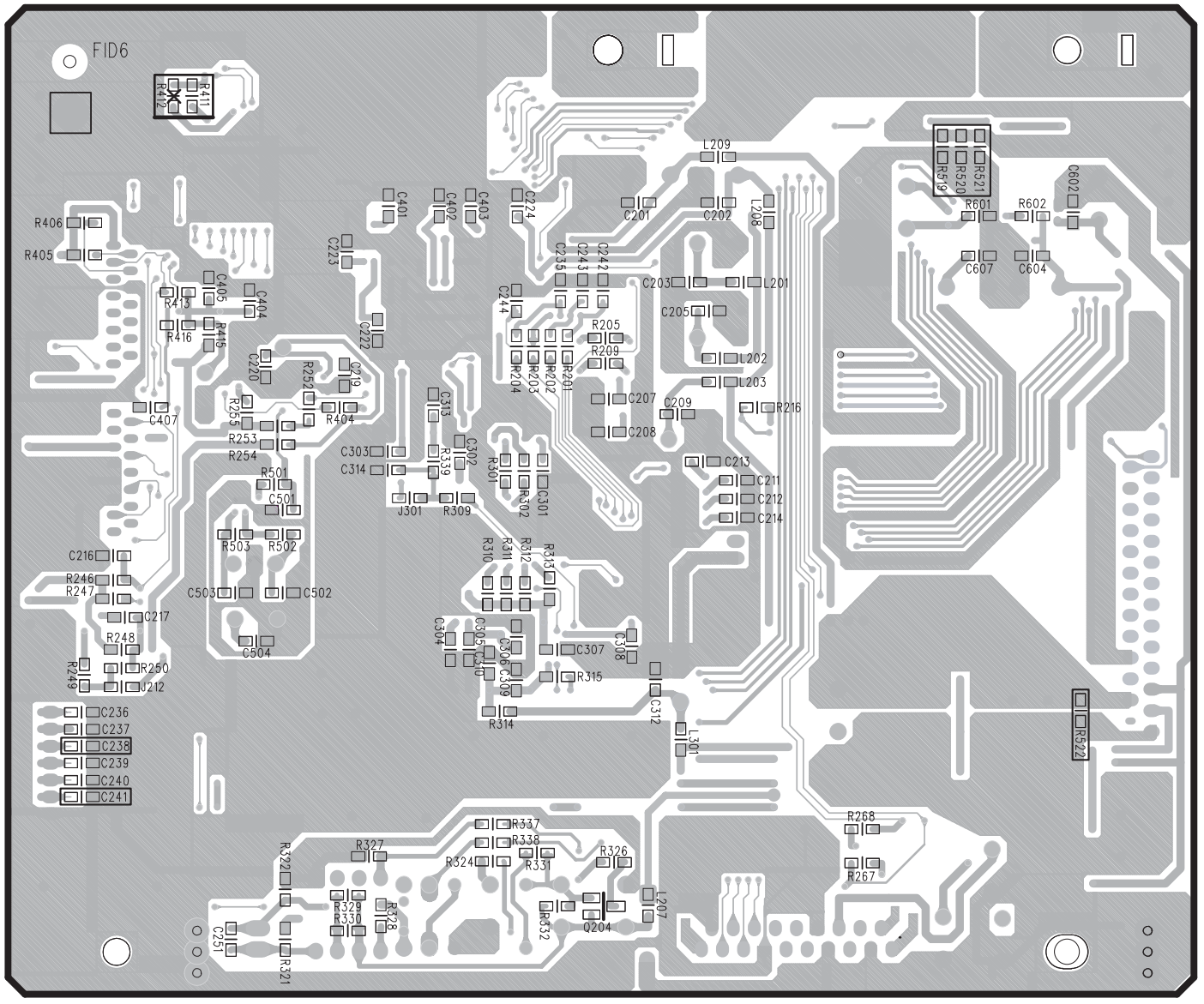
20: DVD MAIN CIRCUIT PC BOARD



Top pattern and top silk

PRINTED CIRCUIT BOARD VIEW

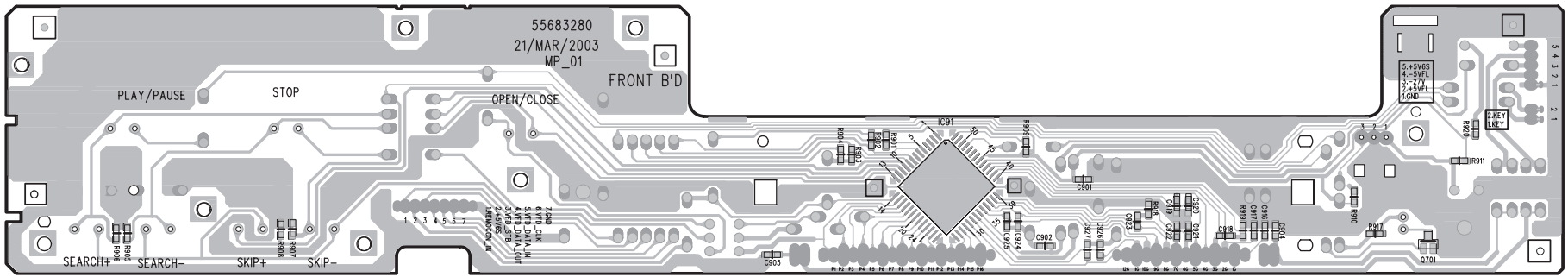
20: DVD MAIN CIRCUIT PC BOARD



Bottom Pattern and bottom silk

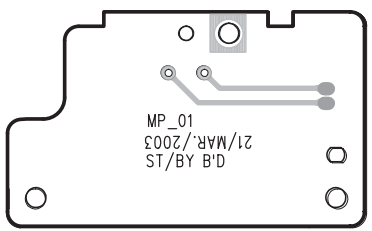
PRINTED CIRCUIT BOARD VIEW

U**: DISPLAY CIRCUIT PC BOARD FROM BOTTOM SIDE VIEW



BOTTOM PATTERN and BOTTOM SILK

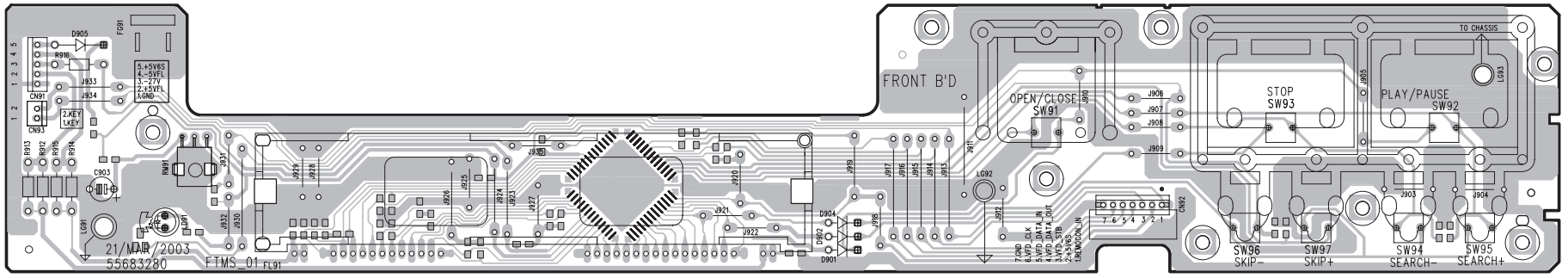
U**: STANDBY SWITCH PC BOARD



Bottom pattern and bottom silk

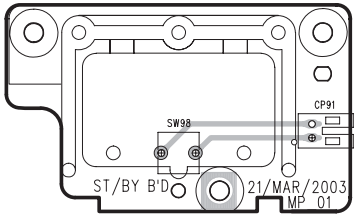
PRINTED CIRCUIT BOARD VIEW

16: DISPLAY CIRCUIT PC BOARD FROM TOP SIDE VIEW



Top silk and Bottom pattern

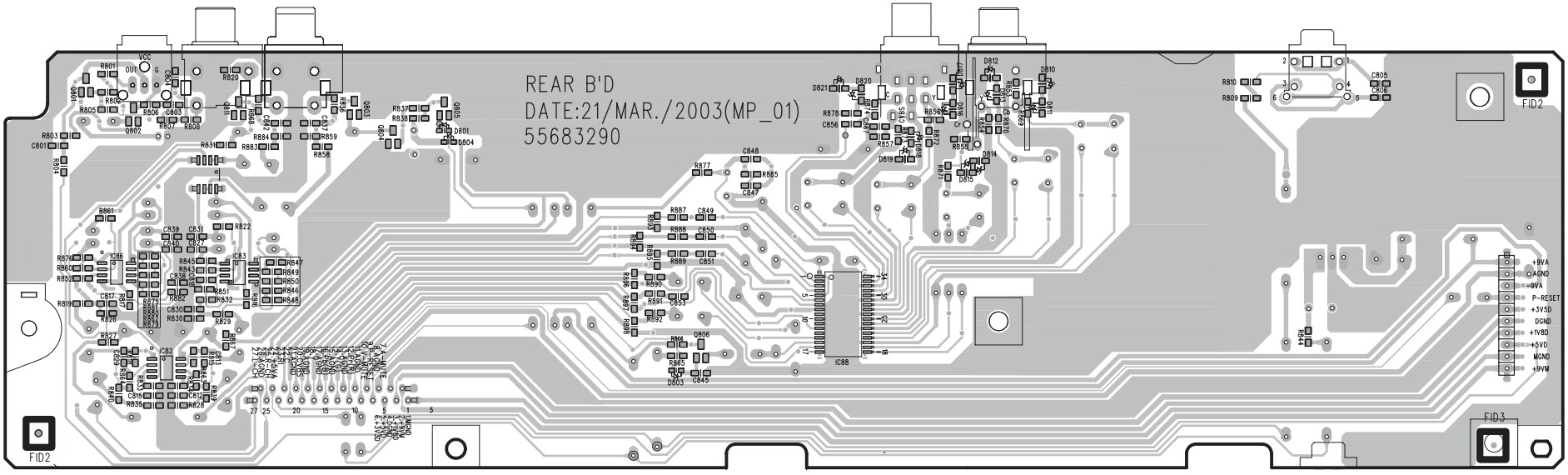
16: STANDBY SWITCH PC BOARD



Top silk and Bottom pattern

PRINTED CIRCUIT BOARD VIEW

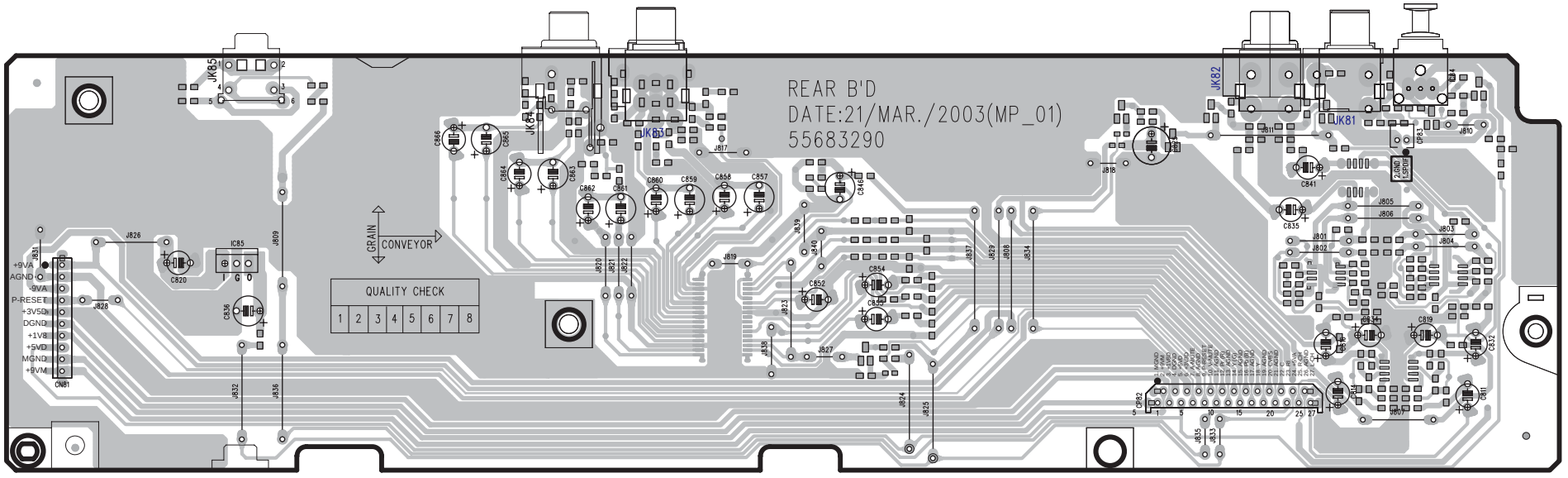
21: OUTPUT TERMINAL PC BOARD



Bottom silk and bottom pattern

PRINTED CIRCUIT BOARD VIEW

21: OUTPUT TERMINAL PC BOARD FROM TOP SIDE VIEW



Top silk and bottom pattern

IC TERMINAL DESCRIPTION

IC61: WM8728 STEREO DAC

PIN NUMBER	PIN NAME	MAIN FUNCTION	I/O
1	LRCIN	DAC SAMPLE RATE CLOCK INPUT	I
2	DIN	SERIAL AUDIO DATA INPUT	I
3	BCKIN	AUDIO DATA BIT CLOCK INPUT	I
4	MCLK	MASTER CLOCK INPUT	I
5	ZERO	INFINITE ZERO DEFECT FLAG(OPEN DRAIN)	O
6	DGND	DIGITAL GROUND SUPPLY	-
7	DVDD	DIGITAL POSITIVE SUPPLY	-
8	VOUTR	RIGHT CHANNEL DAC OUTPUT	O
9	AGND	ANALOG GROUND SUPPLY	-
10	AVDD	ANALOG POSITIVE SUPPLY	-
11	VOUTL	LEFT CHANNEL DAC OUTPUT	O
12	VMID	MID RAIL DECOUPLING POINT	O
13	VREFN	DAC NAGATIVE REFERENCE-NORMAIIY AGND,MUST NOT BE BELOW AGND	-
14	VREFP	DAC POSITIVE REFERENCE-NORMAIIY AGND,MUST NOT BE BELOW AGND	-
15	CSBIWL	SOFTWARE MODE:3-WIRE SERIAL CONTROL CHIP SELECT	I
16	MODE	CONTROL MODE SELECTION(L=HARDWARE,H=SOFTWARE)	I
17	MUTEB	MUTE CONTROL(L=MUTE ON,H=MUTE OFF,Z=AUTOMUTE ENABLED)	-
18	SDIDEM	SOFTWARE MODE:3 OR 2-WIRE SERIAL CONTROL DATA INPUT	I
19	SCKDSD	SOFTWARE MODE:3 OR 2-WIRE SERIAL CONTROL CLOCK INPUT	I
20	LATI2S	SOFTWARE MODE:3 OR 2-WIRE SERIAL CONTROL LOAD INPUT	I

IC TERMINAL DESCRIPTION

IC23: FAN8082 BI-DIRECTIONAL DC MOTOR DRIVER

PIN NUMBER	PIN NAME	MAIN FUNCTION	I/O
1	GND	GROUND	-
2	VO1	OUTPUT1	O
3	VCTL	MOTOR SPEED CONTROL	I
4	VIN1	INPUT1	I
5	VIN2	INPUT2	I
6	SVCC	SUPPLY VOLTAGE(SIGNAL)	-
7	PVCC	SUPPLY VOLTAGE(POWER)	-
8	VO2	OUTPUT2	O

IC TERMINAL DESCRIPTION

IC88: MM1568AJBE VIDEOPROC AMPLIFIER&DRIVER

PIN NUMBER	PIN NAME	MAIN FUNCTION	I/O
1	VCC1	VCC	-
2	CIN	CROMA INPUT	I
3	MUTE1	MUTE SELECT(USING OF MUTE AND POWER-SAVING)	-
4	VIN	VIDEO INPUT COMPOSITE(INPUT CLAMP:SYNC TIP)	I
5	YC MIX	YC MIX	-
6	YIN	VIDEO INPUT LUMINANCE(INPUT CLAMP:SYNC TIP)	I
7	BIAS	BIAS	-
8	GND1	GROUND	-
9	NC	NC	-
10	GND1	GROUND	-
11	NC	NC	-
12	CYIN	LUMINANCE INPUT(THE INPUT CAN SELECT SYNC TIP CLAMP OR BIAS)	I
13	CLP	INPUT CLAMP SELECT	I
14	CbIN	COMPONENT INPUT	I
15	MUTE2	MUTE SELECT(USING OF MUTE AND POWER-SAVING)	-
16	CrIN	COMPONENT INPUT	I
17	GND2	GROUND	-
18	CrOUT	SIGNAL OUT	O
19	CrSAG	SAG CORRECTION	O
20	GND2	GROUND	-
21	CbOUT	SIGNAL OUT	O
22	CbSAG	SAG CORRECTION	O
23	GND2	GROUND	-
24	CYOUT	SIGNAL OUT	O
25	CYSAG	SAG CORRECTION	O
26	GND2	GROUND	-
27	YOUT	SIGNAL OUT	O
28	YSAG	SAG CORRECTION	O
29	GND2	GROUND	-
30	VOUT	SIGNAL OUT	O
31	VSAG	SAG CORRECTION	O
32	GND2	GROUND	-
33	COUT	CROMA OUTPUT	O
34	VCC2	VCC	-

IC TERMINAL DESCRIPTION

IC41: M29W800AT FLASH MEMORY

PIN NUMBER	PIN NAME	MAIN FUNCTION	I/O
1	A15	ADDRESS INPUT	I
2	A14	ADDRESS INPUT	I
3	A13	ADDRESS INPUT	I
4	A12	ADDRESS INPUT	I
5	A11	ADDRESS INPUT	I
6	A10	ADDRESS INPUT	I
7	A9	ADDRESS INPUT	I
8	A8	ADDRESS INPUT	I
9	NC	NOT CONNECTED INTERNALLY	-
10	NC	NOT CONNECTED INTERNALLY	-
11	WE	WRITE ENABLE	I/O
12	RP	RESET/BLOCK TEMPORARY UNPROTECT	O
13	NC	NOT CONNECTED INTERNALLY	-
14	NC	NOT CONNECTED INTERNALLY	-
15	RY/BY	READY/BUSY OUTPUT	O
16	A18	ADDRESS INPUT	I
17	A17	ADDRESS INPUT	I
18	A7	ADDRESS INPUT	I
19	A6	ADDRESS INPUT	I
20	A5	ADDRESS INPUT	I
21	A4	ADDRESS INPUT	I
22	A3	ADDRESS INPUT	I
23	A2	ADDRESS INPUT	I
24	A1	ADDRESS INPUT	I
25	A0	ADDRESS INPUT	I
26	CE	CHIP ENABLE	I
27	VSS	GROUND	-
28	OE	OUTPUT ENABLE	O
29	DQ0	DATA INPUT/OUTPUT OR COMMAND INPUT	I/O
30	DQ8	DATA INPUT/OUTPUT	I/O
31	DQ1	DATA INPUT/OUTPUT OR COMMAND INPUT	I/O
32	DQ9	DATA INPUT/OUTPUT	I/O
33	DQ2	DATA INPUT/OUTPUT OR COMMAND INPUT	I/O
34	DQ10	DATA INPUT/OUTPUT	I/O
35	DQ3	DATA INPUT/OUTPUT OR COMMAND INPUT	I/O
36	DQ11	DATA INPUT/OUTPUT	I/O
37	VCC	SUPPLY VOLTAGE	I
38	DQ4	DATA INPUT/OUTPUT OR COMMAND INPUT	I/O
39	DQ12	DATA INPUT/OUTPUT	I/O
40	DQ5	DATA INPUT/OUTPUT OR COMMAND INPUT	I/O
41	DQ13	DATA INPUT/OUTPUT	I/O
42	DQ6	DATA INPUT/OUTPUT OR COMMAND INPUT	I/O
43	DQ14	DATA INPUT/OUTPUT	I/O
44	DQ7	DATA INPUT/OUTPUT OR COMMAND INPUT	I/O
45	DQ15	DATA INPUT/OUTPUT OR ADDRESS INPUT	I/O
46	VSS	GROUND	-
47	BYTE	BYTE/WORD ORGANIZATION	I/O
48	A16	ADDRESS INPUT	I

IC TERMINAL DESCRIPTION

IC22: M24C02 SERIAL I^2S BUS EEPROM

PIN NUMBE	PIN NAME	MAIN FUNCTION	I/O
1	E0	CHIP ENABLE INPUT	I
2	E1	CHIP ENABLE INPUT	I
3	E2	CHIP ENABLE INPUT	I
4	VSS	GROUND	-
5	SDA	SERIAL DATA ADDRESS INPUT/OUTPUT	I/O
6	SCL	SERIAL CLOCK	I
7	WC	WRITE CONTROL	I
8	VCC	SUPPLY VOLTAGE	-

IC TERMINAL DESCRIPTION

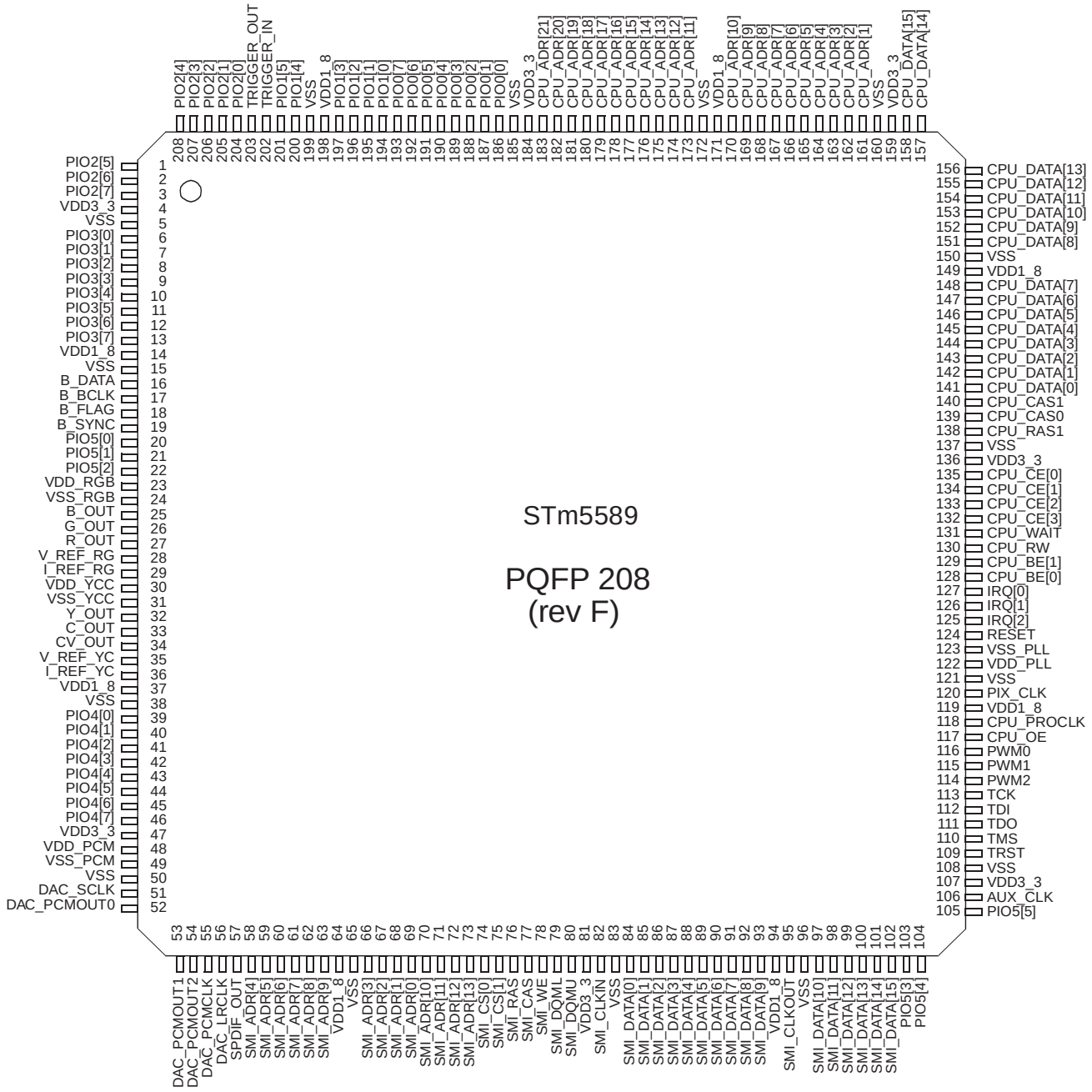
IC31: HY57V641620HGT-H CMOS SYNCHRRONOUS DRAM

PIN NUMBER	PIN NAME	MAIN FUNCTION	I/O
1	VDD	POWER SUPPLY	-
2	DQ0	MULTIPLEXED DATA INPUT/OUTPUT	I/O
3	VDDQ	DATA OUTPUT POWER	-
4	DQ1	MULTIPLEXED DATA INPUT/OUTPUT	I/O
5	DQ2	MULTIPLEXED DATA INPUT/OUTPUT	I/O
6	VSSQ	DIGITAL GROUND SUPPLY	-
7	DQ3	MULTIPLEXED DATA INPUT/OUTPUT	I/O
8	DQ4	MULTIPLEXED DATA INPUT/OUTPUT	I/O
9	VDDQ	DATA OUTPUT POWER	-
10	DQ5	MULTIPLEXED DATA INPUT/OUTPUT	I/O
11	DQ6	MULTIPLEXED DATA INPUT/OUTPUT	I/O
12	VSSQ	DATA OUTPUT GROUND	O
13	DQ7	MULTIPLEXED DATA INPUT/OUTPUT	I/O
14	VDD	POWER SUPPLY	-
15	LDQM	DATA INPUT/OUTPUT MASK	I/O
16	/WE	WRITE ENABLE	I
17	/CAS	COLUMN ADDRESS STROBE	I
18	/RAS	ROW ADDRESS STROBE	I
19	/CS	CHIP SELECT	I/O
20	A13(BA0)	BANK ADDRESS	I/O
21	A12(BA1)	BANK ADDRESS	I/O
22	A10(AP)	ADDRESS	I/O
23	A0	ADDRESS	I/O
24	A1	ADDRESS	I/O
25	A2	ADDRESS	I/O
26	A3	ADDRESS	I/O
27	VDD	POWER SUPPLY	-
28	VSS	GROUND	I/O
29	A4	ADDRESS	I/O
30	A5	ADDRESS	I/O
31	A6	ADDRESS	I/O
32	A7	ADDRESS	I/O
33	A8	ADDRESS	I/O
34	A9	ADDRESS	I/O
35	A11	ADDRESS	I/O
36	NC	NO CONNECTION	-
37	CKE	CLOCK ENABLE	I
38	CLK	CLOCK	I
39	UDQM	DATA INPUT/OUTPUT MASK	I/O
40	NC	NO CONNECTION	-
41	VSS	GROUND	-
42	DQ8	MULTIPLEXED DATA INPUT/OUTPUT	I/O
43	VDDQ	DATA OUTPUT POWER	-
44	DQ9	MULTIPLEXED DATA INPUT/OUTPUT	I/O
45	DQ10	MULTIPLEXED DATA INPUT/OUTPUT	I/O
46	VSSQ	DATA OUTPUT GROUND	-
47	DQ11	MULTIPLEXED DATA INPUT/OUTPUT	I/O
48	DQ12	MULTIPLEXED DATA INPUT/OUTPUT	I/O
49	ADDQ	DATA OUTPUT POWER	-
50	DQ13	MULTIPLEXED DATA INPUT/OUTPUT	I/O
51	DQ14	MULTIPLEXED DATA INPUT/OUTPUT	I/O
52	VSSQ	DATA OUTPUT GROUND	-
53	DQ5	MULTIPLEXED DATA INPUT/OUTPUT	I/O
54	VSS	GROUND	-

IC TERMINAL DESCRIPTION

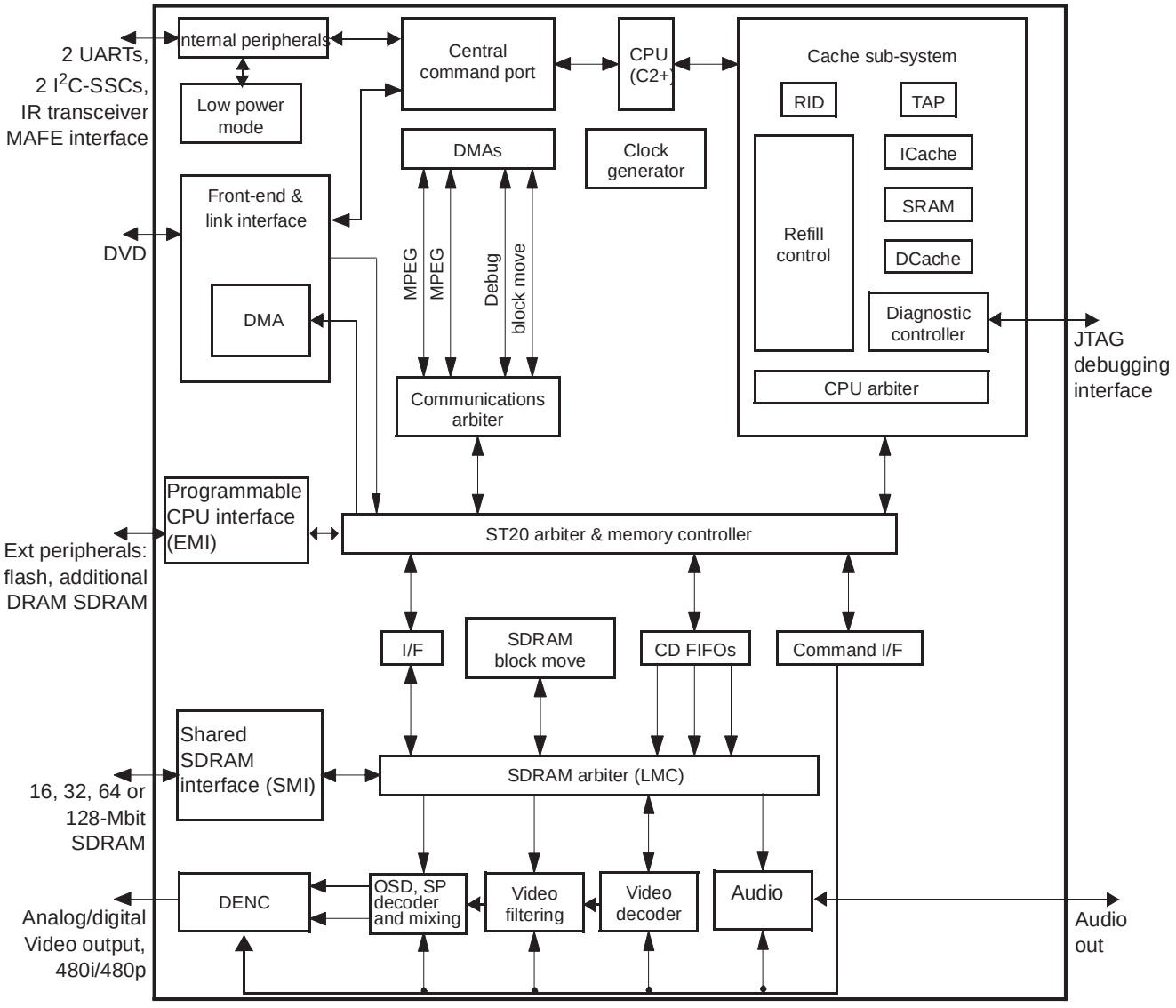
IC21: STM5589 DVD HOST PROCESSOR WITH PROGRESSIVE SCAN

PIN LAYOUT



IC TERMINAL DESCRIPTION

BLOCK DIAGRAM



IC TERMINAL DESCRIPTION

PIN LIST SORTED BY FUNCTION 1

The table column *A/ternate function* shows the secondary use of the PIOs.

Pin number	Pin name	Main function	Alternate function		Pin type
			Input	Output	
Left Side					
1	PIO2[5]	PIO2[5]		SC1_CMD_VCC AUD_DEBUG_OUT SSC1_MTSRout	I/O
2	PIO2[6]	PIO2[6]		SC1_DATA_DIR DAC_PCMOUT3 (VCR)	I/O
3	PIO2[7]	PIO2[7]	SC1_DETECT AUD_DEBUG_IN	YC_CLKOUT	I/O
4	VDD3_3	3.3 V power supply			Power
5	VSS	Ground			Power
6	PIO3[0]	PIO3[0]	MAFEIF_SCLK PARA_DATA{0]	I2S_DATA_OUT	I/O
7	PIO3[1]	PIO3[1]	MAFEIF_DIN PARA_DATA[1]	I2S_BCLK_OUT	I/O
8	PIO3[2]	PIO3[2]	MAFEIF_FSI PARA_DATA[2]	I2S_BFLAG_OUT	I/O
9	PIO3[3]	PIO3[3]	CAPTURE_IN0 PARA_DATA[3]		I/O
10	PIO3[4]	PIO3[4]	CAPTURE_IN1 PARA_DATA[4]	UART1 RTS (RTS1)	I/O
11	PIO3[5]	PIO3[5]	CAPTURE_IN2 PARA_DATA[5]	UART2 RTS (RTS2)	I/O
12	PIO3[6]	PIO3[6]	PARA_DATA[6] UART1 CTS (CTS1)	COMP_OUT1	I/O
13	PIO3[7]	PIO3[7]	PARA_DATA[7] UART2 CTS (CTS2)	COMP_OUT0	I/O
14	VDD1_8	1.8V power supply			Power
15	VSS	Ground			Power
16	B_DATA	I^2S data	SER_DATA RS_DATA		I
17	B_BCLK	I^2S bit clock	SER_BCLK RS_BCLK		I
18	B_FLAG	I^2S error flag DVD	SER_VALID RS_DVALID		I
19	B_SYNC	I^2S sector/ABS time	SER_SYNC		I

IC TERMINAL DESCRIPTION

PIN LIST SORTED BY FUNCTION 2

Pin number	Pin name	Main function	Alternate function		Pin type
			Input	Output	
20	PIO5[0]	PIO5[0]	B_WCLK RS_ERROR_EN		I/O
			SSC1_DATA/ NRSS_CLOCK[1]		
21	PIO5[1]	PIO5[1]	B_V4 RS_ECCB_START	NRSS_OUT[1] & [2]	I/O
			SSC1_CLK		
22	PIO5[2]	PIO5[2]	IRB_IRin/NRSS_IN[2]		I/O
			SDAV_CLK/ P1394_Clk[3]		
23	VDD_RGB	VDDA_RGB=3.3V			Power
24	VSS_RGB	VSSA_RGB=GND			Power
25	B_OUT	B output			O
26	G_OUT	G output			O
27	R_OUT	R output			O
28	V_REF_RGB	RGB DAC reference voltage			I
29	I_REF_RGB	RGB DAC reference current			I
30	VDD_YCC	VDDA_YCC=3.3V			Power
31	VSS_YCC	VSSA_YCC=GND			Power
32	Y_OUT	Y output			O
33	C_OUT	C output			O
34	CV_OUT	CV output			O
35	V_REF_YCC	YCC DAC reference voltage			I
36	I_REF_YCC	YCC DAC reference current			I
37	VDD1_8	1.8V power supply			Power
38	VSS	Ground			Power
39	PIO4[0]	PIO4[0]		YC[0]	I/O
40	PIO4[1]	PIO4[1]		YC[1]	I/O
41	PIO4[2]	PIO4[2]		YC[2]	I/O
42	PIO4[3]	PIO4[3]		YC[3]	I/O
43	PIO4[4]	PIO4[4]		YC[4]	I/O
44	PIO4[5]	PIO4[5]		YC[5]	I/O
45	PIO4[6]	PIO4[6]		YC[6]	I/O
46	PIO4[7]	PIO4[7]		YC[7]	I/O

IC TERMINAL DESCRIPTION

PIN LIST SORTED BY FUNCTION 3

Pin number	Pin name	Main function	Alternate function		Pin type
			Input	Output	
47	VDD3_3	3.3 V power supply			Power
48	VDD_PCM	VDD frequency synthesizer=1.8V			Power
49	VSS_PCM	VSS frequency synthesizer=GND			Power
50	VSS	Ground			Power
51	DAC_SCLK	Sampling clock		EXT_AUD_CLK	O
52	DAC_PCMOUT0	PCM output 0		EXT_AUD_DATA	O
Bottom side					
53	DAC_PCMOUT1	PCM output 1	EXT_AUD_REQ		I/O
54	DAC_PCMOUT2	PCM output 2			O
55	DAC_PCMCLK	PCM clock in/out			I/O
56	DAC_LRCLK	Left/right clock		EXT_AUD_WCLK	O
57	SPDIF_OUT	SPDIF output			O
58	SMI_ADR[4]	Address bus SDRAM			O
59	SMI_ADR[5]	Address bus SDRAM			O
60	SMI_ADR[6]	Address bus SDRAM			O
61	SMI_ADR[7]	Address bus SDRAM			O
62	SMI_ADR[8]	Address bus SDRAM			O
63	SMI_ADR[9]	Address bus SDRAM			O
64	VDD1_8	1.8V power supply			Power
65	VSS	Ground			Power
66	SMI_ADR[3]	Address bus SDRAM			O
67	SMI_ADR[2]	Address bus SDRAM			O
68	SMI_ADR[1]	Address bus SDRAM			O
69	SMI_ADR[0]	Address bus SDRAM			O
70	SMI_ADR[10]	Address bus SDRAM			O
71	SMI_ADR[11]	Address bus SDRAM			O
72	SMI_ADR[12]	Address bus SDRAM			O
73	SMI_ADR[13]	Address bus SDRAM			O
74	SMI_CS[0]	Chip select bank 0			O
75	SMI_CS[1]	Chip select bank 1			O
76	SMI_RAS	RAS SDRAM			O
77	SMI_CAS	CAS SDRAM			O

IC TERMINAL DESCRIPTION

PIN LIST SORTED BY FUNCTION 4

Pin number	Pin name	Main function	Alternate function		Pin type
			Input	Output	
78	SMI_WE	SDRAM write enable			O
79	SMI_DQML	DQ mask en low			O
80	SMI_DQMU	DQ mask en up			O
81	VDD3_3	3.3 V power supply			Power
82	SMI_CLKIN	SDRAM clock in			I
83	VSS	Ground			Power
84	SMI_DATA[0]	Data bus SDRAM			I/O
85	SMI_DATA[1]	Data bus SDRAM			I/O
86	SMI_DATA[2]	Data bus SDRAM			I/O
87	SMI_DATA[3]	Data bus SDRAM			I/O
88	SMI_DATA[4]	Data bus SDRAM			I/O
89	SMI_DATA[5]	Data bus SDRAM			I/O
90	SMI_DATA[6]	Data bus SDRAM			I/O
91	SMI_DATA[7]	Data bus SDRAM			I/O
92	SMI_DATA[8]	Data bus SDRAM			I/O
93	SMI_DATA[9]	Data bus SDRAM			I/O
94	VDD1_8	1.8V power supply			Power
95	SMI_CLKOUT	SDRAM clock out			O
96	VSS	Ground			Power
97	SMI_DATA[10]	Data bus SDRAM			I/O
98	SMI_DATA[11]	Data bus SDRAM			I/O
99	SMI_DATA[12]	Data bus SDRAM			I/O
100	SMI_DATA[13]	Data bus SDRAM			I/O
101	SMI_DATA[14]	Data bus SDRAM			I/O
102	SMI_DATA[15]	Data bus SDRAM			I/O
103	PIO5[3]	PIO5[3]	IRB_UHFin ADC_SCLK		I/O
			SDAV_DATA[3]		
104	PIO5[4]	PIO5[4]	ADC_LRCLK	IRB_PPMout	I/O
			SDAV_DIR / P1394_P_CLK[3]		
Right side					
105	PIO5[5]	PIO5[5]	ADC_DATA	IRB_DRIVE0orZ[4] (jack)	I/O
			OSC_IN_CLK[3]		

IC TERMINAL DESCRIPTION

PIN LIST SORTED BY FUNCTION 5

Pin number	Pin name	Main function	Alternate function		Pin type
			Input	Output	
106	AUX_CLK	Auxiliary clock out			I/O
107	VDD3_3	3.3 V power supply			Power
108	VSS	Ground			Power
109	TRST[5]	Test reset			I
110	TMS	Test mode select			I
111	TDO	Test data out			O
112	TDI	Test data in			I
113	TCK	Test clock			I
114	PWM2	Pulse Width Modulator 2	ODDEVEN[6]		I/O
115	PWM1	Pulse Width Modulator 1	BOOT_FROM_ROM[7]		I/O
116	PWM0	Pulse Width Modulator 0	HSYNC		I/O
117	CPU_OE	Output enable			I/O
118	CPU_PROCLK	EMI clock			O
119	VDD1_8	1.8V power supply			Power
120	PIX_CLK	27 MHz main clock			I
121	VSS	Ground			Power
122	VDD_PLL	VDD PLL=1.8V			Power
123	VSS_PLL	GND PLL=GND			Power
124	RESET	Chip reset			I
125	IRQ[2]	IRQ[2] *(MD_IRQ)*			I
126	IRQ[1]	IRQ[1] *(ATAPI IRQ)*			I
127	IRQ[0]	IRQ[0] *(SERVO_IRQ)*			I
128	CPU_BE[0]	Byte 0 enable		DQM[0]	O
129	CPU_BE[1]	Byte 1 enable		DQM[1]	O
130	CPU_RW	Read-not-write		NOT_SDRAM_WE	O
131	CPU_WAIT	Wait state			I
132	CPU_CE[3]	Chip select bank 3		CS_SUB_BANK3	O
133	CPU_CE[2]	Chip select bank 2			O
134	CPU_CE[1]	Chip select bank 1			O
135	CPU_CE[0]	DRAM RAS 0		SDRAM_RAS	O
136	VDD3_3	3.3 V power supply			Power
137	VSS	Ground			Power
138	CPU_RAS1	DRAM RAS 1		NOT_SDRAM_CS1	I/O

IC TERMINAL DESCRIPTION

PIN LIST SORTED BY FUNCTION 6

Pin number	Pin name	Main function	Alternate function		Pin type
			Input	Output	
139	CPU_CAS0	DRAM CAS 0		SDRAM_CAS/ CPU_ADR[22]	O
140	CPU_CAS1	DRAM CAS 1		NOT_SDRAM_CS0	O
141	CPU_DATA[0]	Data[0]			I/O
142	CPU_DATA[1]	Data[1]			I/O
143	CPU_DATA[2]	Data[2]			I/O
144	CPU_DATA[3]	Data[3]			I/O
145	CPU_DATA[4]	Data[4]			I/O
146	CPU_DATA[5]	Data[5]			I/O
147	CPU_DATA[6]	Data[6]			I/O
148	CPU_DATA[7]	Data[7]			I/O
149	VDD1_8	1.8V power supply			Power
150	VSS	Ground			Power
151	CPU_DATA[8]	Data[8]			I/O
152	CPU_DATA[9]	Data[9]			I/O
153	CPU_DATA[10]	Data[10]			I/O
154	CPU_DATA[11]	Data[11]			I/O
155	CPU_DATA[12]	Data[12]			I/O
156	CPU_DATA[13]	Data[13]			I/O
Top side					
157	CPU_DATA[14]	Data[14]			I/O
158	CPU_DATA[15]	Data[15]			I/O
159	VDD3_3	3.3 V power supply			Power
160	VSS	Ground			Power
161	CPU_ADR[1]	Address[1]			O
162	CPU_ADR[2]	Address[2]			O
163	CPU_ADR[3]	Address[3]			O
164	CPU_ADR[4]	Address[4]			O
165	CPU_ADR[5]	Address[5]			O
166	CPU_ADR[6]	Address[6]			O
167	CPU_ADR[7]	Address[7]			O
168	CPU_ADR[8]	Address[8]			O
169	CPU_ADR[9]	Address[9]			O
170	CPU_ADR[10]	Address[10]			O

IC TERMINAL DESCRIPTION

PIN LIST SORTED BY FUNCTION 7

Pin number	Pin name	Main function	Alternate function		Pin type
			Input	Output	
171	VDD1_8	1.8V power supply			Power
172	VSS	Ground			Power
173	CPU_ADR[11]	Address[11]			O
174	CPU_ADR[12]	Address[12]			O
175	CPU_ADR[13]	Address[13]			O
176	CPU_ADR[14]	Address[14]			O
177	CPU_ADR[15]	Address[15]			O
178	CPU_ADR[16]	Address[16]			O
179	CPU_ADR[17]	Address[17]			O
180	CPU_ADR[18]	Address[18]			O
181	CPU_ADR[19]	Address[19]			O
182	CPU_ADR[20]	Address[20]			O
183	CPU_ADR[21]	Address[21]			O
184	VDD3_3	3.3 V power supply			Power
185	VSS	Ground			Power
186	PIO0[0]	PIO0[0]	UART0_DATA *(SC0_DATA)*		I/O
187	PIO0[1]	PIO0[1]	PARA_SYNC RS_ERROR	ATAPI_RD	I/O
188	PIO0[2]	PIO0[2]		ATAPI_WR PARA_REQ	I/O
189	PIO0[3]	PIO0[3]		SC0_CLOCK I/O	
190	PIO0[4]	PIO0[4]		SC0_RST I/O	
191	PIO0[5]	PIO0[5]		SC0_CMD_VCC	I/O
192	PIO0[6]	PIO0[6]		SC0_DATA_DIR	I/O
193	PIO0[7]	PIO0[7]	SC0_DETECT	I2S_SYNC_OUT	I/O
194	PIO1[0]	PIO1[0]	SSC0_DATA (MTSROut/MRSTin)		I/O
195	PIO1[1]	PIO1[1]	SSC0_CLK		I/O
196	PIO1[2]	PIO1[2]	SC_EXT_CLKIN PARA_DVALID	I2S_WCLK_OUT	I/O
197	PIO1[3]	PIO1[3]		UART2_TXD	I/O
198	VDD1_8	1.8V power supply			Power
199	VSS	Ground			Power
200	PIO1[4]	PIO1[4]	UART2_RXD		I/O
201	PIO1[5]	PIO1[5]	PARA_SYNC	UART1_TXD	I/O

FW DOWNLOAD

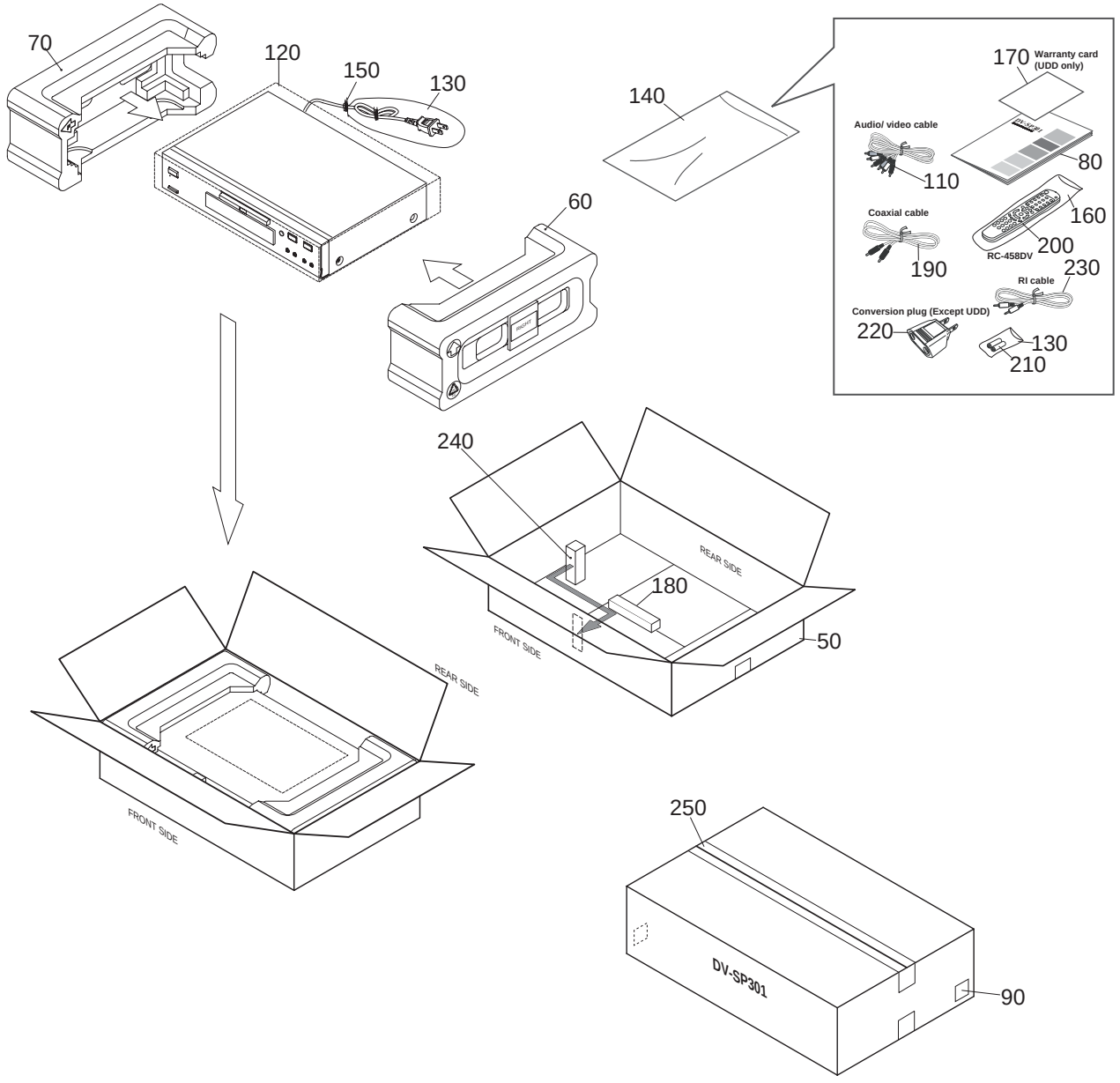
Confirm the version of firmware.

1. Open a tray.
2. Press the "SERCH DOWN" ◄◄ and "STANDBY" ⏻ button at the same time.
   Displayed on the FL tube like "70******"
   Firmware and regional code
3. Turn off the power switch and power on, again.
4. Close the tray.

Upgrade the firmware

1. Connect a video monitor to video out jack on the DV-SP301.
2. Turn on th epower switch and standby switch on.
3. Setting the disc on the tray. (Down load firmware dat adisc)
4. Press "PLAY" button.
5. Will start the Firm Ware updating automatically.
   Will tray open after finish the updating and take out the disc.
6. Turn off power switch.
7. Turn on the power switch, standby on and close the tray.

PACKING VIEW



EXPLODED VIEW PARTS LIST (DV-SP301)

REF. NO.	PART NO.	DESCRIPTION	Qt'y						REMARK
			(B) UDD1N	(S) UDD1N	(B) UUS4P	(S) UUS4P	(G) UUT3P	(G) UUK3P	
1	55209110	Finger	1	1	1	1	1	1	
2	55221140	Shield Cover DV-C503	1	1	1	1	1	1	
3	55186710	Facet S /BY DV-C503	1	1	1	1	1	1	
4	55683090	Standby switch PC board	1	1	1	1	1	1	
5	55678210	Standby button <B>	1		1				
	55688530	Standby button <S>		1		1			
	55688540	Standby button <G>					1	1	
6	55678090	Front panel <B> <UUD>	1						
	55706410	Front panel <B> <UUS>			1				
	55688350	Front panel <S> <UDD>		1					
	55706310	Front panel <S> <UUS>				1			
	55688360	Front panel <G> <UUS>					1	1	
7	55768220	Plate			1	1	1	1	
8	55186750	Badge logo <B> DV-C503	1		1				
	55688330	Badge logo <S> <G>		1		1	1	1	
9	55678180	Tray <B>	1		1				
	55688430	Tray <S> <UDD>		1		1			
	55688440	Tray <G> <UUS>					1	1	
10	55384980	Plate DVD <B> DPC5.3	1		1				
	55688340	Plate DVD <S> <G>		1		1	1	1	
11	55678230	Clear plate <B>	1		1				
	55688570	Clear plate <S> <G>		1		1	1	1	
12	55678220	Button 6key <B>	1		1				
	55688550	Button 6key <S> <UDD>		1		1			
	55688560	Button 6key <G> <UUS>					1	1	
13	55678190	Button OPEN/CLOSE <B>	1		1				
	55688510	Button OPEN/CLOSE <S> <UDD>		1		1			
	55688520	Button OPEN/CLOSE <S> <UUS>					1	1	
14	55009420	FL Display PT6311	1	1	1	1	1	1	
15	55678240	FL Holder	1	1	1	1	1	1	
16	55683090	Display circuit PC board <UDD>	1	1	1	1	1	1	
17	55141370	Rubber 3.0MM 25.0MM	4	4	4	4	4	4	
18	55125120	Foot 12.5MM 50MM	4	4	4	4	4	4	
19	55683390	Chassis	1	1	1	1	1	1	
20	55682580	Main circuit PC board assy	1	1	1	1	1	1	
21	55683150	Output terminal PC board assy	1	1	1	1	1	1	
22	55164740	Optical out terminal GP1F32T	1	1	1	1	1	1	
23	55164750	Coaxial terminal	1	1	1	1	1	1	
24	55175260	Analog out terminal RCA 2P	1	1	1	1	1	1	
25	55191220	S-Video terminal	1	1	1	1	1	1	
26	55149420	Component out terminal	1	1	1	1	1	1	
27	55739620	RI terminal	1	1	1	1	1	1	
28	55683410	Rear panel <UDD>	1	1					
	55688020	Rear panel <UUS>			1	1			
	55707610	Rear panel <UUT>					1	1	
29	55125180	Cord bushing	1	1	1	1	1	1	
30	55190780	Power cord <UDD>	1	1					
	55190790	Power cord <UUS>			1	1	1		
	55330320	Power cord <UUK>						1	
31	55702120	Power supply unit	1	1	1	1	1	1	
32	55678120	Knob power <B>	1		1				
	55688410	Knob power <S> <UDD>		1		1			
	55688420	Knob power <G> <UUS>					1	1	
33	55683400	Top cover <B>	1		1				
	55688580	Top cover <S> <UDD>		1		1			
	55688590	Top cover <G> <UUS>					1	1	
34	10779940	DVD Mechanism assy TVM503R6	1	1	1	1	1	1	
35	55269540	Bracket mecha.	1	1	1	1	1	1	
36	55179040	Connector assy			1	1	1	1	
37	5516498A	Holder	3	3	3	3	3	3	
40	260208	Wire tie	3	3	3	3	3	3	
41	20752500	Label (Hazard)	1	1	1	1	1	1	

CN81	55687570	Socket AS	1	1	1	1	1	1	
CC24	55687510	FFC 27P x 1.25 x 50	1	1	1	1	1	1	
CC21	55318540	FFC 19P x 1.25 x 70	1	1	1	1	1	1	
F1	0215002.M	Fuse 250V 2A	1	1	1	1	1	1	
CN25	55420050	Socket AS	1	1	1	1	1	1	

S1	55049000	SCREW-ST 3MM 06MM JIS B 1122	2	2	2	2	2	2	
S2	838130088	Tapping screw 3TTB+8B	13	13	13	13	13	13	
S3	838430088	Tapping screw 3TTB+8B (BC) **<B>**	7		7				
	838930088	Tapping screw 3TTB+8B (NI) **<S> <G>**		7		7	7	7	
S4	55135460	SCREW-SPEC 3MM 10MM JIS 27 0 0	11	11	11	11	11	11	
S5	55127290	SCREW-ST 3MM 18MM JIS B 1122	3	3	3	3	3	3	
S6	838130088	Tapping screw 3TTB+8B	2		2				
	55127120	Tapping screw W/Washer <S> <G>		2		2	2	2	
S7	55712510	SCREW-ST 2.6MM 8MM JIS 53 0 A4	11	11	11	11	11	11	
S8	55127070	SCREW-ST 3MM 10MM JIS B 1122	6	6	6	6	6	6	
S9	55127180	SCREW-ST 3MM 8MM JIS B 1122	2	2	2	2	1	1	

PRINTED CIRCUIT BOARD PARTS LIST

OUTPUT TERMINAL PC BOARI

!: Safety part

	CIRCUIT NO.	PART NO.		DESCRIPTION
		ICs		
Output PC	IC82	55128990		OPERAMP BA4560F DUAL OP
Output PC	IC83	55164460		OPERAMP NJM4556AM DUAL OP
Output PC	IC84	55164740		D-LEM GP1F32T RD RND CL
Output PC	IC85	55491690		REGPOSFXD KIA7805AP NORMAL
Output PC	IC85	55505580		REGPOSFXD KA7805 TO-220 NORMAL
Output PC	IC86	55164460		OPERAMP NJM4556AM DUAL OP
Output PC	IC87	55164460		OPERAMP NJM4556AM DUAL OP
Output PC	IC88	55420450		VIDEO PROC MM1568AJBE SSOP34A AMPLIFIER&DRIVER
		Transistors		
Output PC	Q801	20970460		KTC3875Y N 50V 150MI0A
Output PC	Q802	20970480		KTA1504Y P -50V -150MI0A
Output PC	Q803	55039430		DTC323TK N 2K2 OHM
Output PC	Q804	55133190		DTA114YKA P 10K0 OHM 47K0 OHM
Output PC	Q805	55133180		DTC114YKA N 10K0 OHM 47K0 OHM
Output PC	Q806	20970460		KTC3875Y N 50V 150MI0A
Output PC	Q811	55039430		DTC323TK N 2K2 OHM
		Diodes		
Output PC	D801	20496510		1SS355 35.0V 225MI0A
Output PC	D803	20496510		1SS355 35.0V 225MI0A
Output PC	D804	70436540		1N4148 100.0V 150E-3A
Output PC	D810	55177710		ZENER UDZS 5.1 B 5.1V 200MI0W
Output PC	D811	55177710		ZENER UDZS 5.1 B 5.1V 200MI0W
Output PC	D812	55177710		ZENER UDZS 5.1 B 5.1V 200MI0W
Output PC	D813	55177710		ZENER UDZS 5.1 B 5.1V 200MI0W
Output PC	D814	55177710		ZENER UDZS 5.1 B 5.1V 200MI0W
Output PC	D815	55177710		ZENER UDZS 5.1 B 5.1V 200MI0W
Output PC	D816	55177710		ZENER UDZS 5.1 B 5.1V 200MI0W
Output PC	D817	55177710		ZENER UDZS 5.1 B 5.1V 200MI0W
Output PC	D818	55177710		ZENER UDZS 5.1 B 5.1V 200MI0W
Output PC	D819	55177710		ZENER UDZS 5.1 B 5.1V 200MI0W
Output PC	D820	55177710		ZENER UDZS 5.1 B 5.1V 200MI0W
Output PC	D821	55177710		ZENER UDZS 5.1 B 5.1V 200MI0W
		Socket AS		
Output PC	CN81	55687570		10P 60MM UL1007 PVC DISCRETE 26 12
		Socket		
Output PC	CP82	55179440		CONN 1.25MM 27 FE ST WH GF120-27S-TS 2794 A4
Output PC	CP83	55090070		CONN 2.0MM 2 MA ST NAT LW2002P0200T 0 0
		Pin Jack		
Output PC	JK81	55164750		CON PHONO SCKT W/GN 1 PINS
Output PC	JK82	55175260		CON PHONO SCKT RCA 2P W/GND CAP JE020059PN
Output PC	JK83	55191220		CON DIN SCKT MIX SOCKET RCA & S-VIDEO
Output PC	JK84	55149420		CON PHONO SCKT RCA-314P RBG
Output PC	JK85	55739620		CON PHONO SCKT EST-J35228 2 PINS
		Capacitors		
Output PC	C801	20251250		Film. 47N0F +10% -10% 50.0V X7R
Output PC	C803	20251250		Film. 47N0F +10% -10% 50.0V X7R
Output PC	C804	11058670		Film. 100P0F +5% -5% 50.0V NP0
Output PC	C805	30939240		Film. 22N0F +10% -10% 50.0V X7R
Output PC	C806	30939240		Film. 22N0F +10% -10% 50.0V X7R
Output PC	C811	20267830		Elect. C 47U0F +20% 16.0V 85C 20251640
Output PC	C812	50882800		Film. 1N5F +10% -10% 50.0V X7R
Output PC	C813	20468970		Film. 330P0F +5% -5% 50.0V NP0
Output PC	C814	20267830		Elect. C 47U0F +20% 16.0V 85C 20251640
Output PC	C815	50882800		Film. 1N5F +10% -10% 50.0V X7R
Output PC	C816	20267830		Elect. C 47U0F +20% 16.0V 85C 20251640
Output PC	C817	11058670		Film. 100P0F +5% -5% 50.0V NP0
Output PC	C818	80436820		Film. 680P0F +10% -10% 50.0V X7R
Output PC	C819	20267830		Elect. C 47U0F +20% 16.0V 85C 20251640

Output PC	C820	20268840		Elect. C 1U0F +20% 50.0V 85C
Output PC	C825	20268180		Elect. C 330U0F +20% 16.0V 85C
Output PC	C827	11059320		Film. 1N0F +10% -10% 50.0V X7R
Output PC	C829	20468970		Film. 330P0F +5% -5% 50.0V NP0
Output PC	C830	11058670		Film. 100P0F +5% -5% 50.0V NP0
Output PC	C831	50882800		Film. 1N5F +10% -10% 50.0V X7R
Output PC	C832	20267830		Elect. C 47U0F +20% 16.0V 85C 20251640
Output PC	C834	20267830		Elect. C 47U0F +20% 16.0V 85C 20251640
Output PC	C835	20267830		Elect. C 47U0F +20% 16.0V 85C 20251640
Output PC	C836	20269080		Elect. C 220U0F +20% 10.0V 85C
Output PC	C837	11058670		Film. 100P0F +5% -5% 50.0V NP0
Output PC	C838	80436820		Film. 680P0F +10% -10% 50.0V X7R
Output PC	C839	50882800		Film. 1N5F +10% -10% 50.0V X7R
Output PC	C840	11059320		Film. 1N0F +10% -10% 50.0V X7R
Output PC	C841	20267830		Elect. C 47U0F +20% 16.0V 85C 20251640
Output PC	C842	11058670		Film. 100P0F +5% -5% 50.0V NP0
Output PC	C845	20267290		Film. 100N0F +80% -20% 50.0V Y5V
Output PC	C846	20269020		Elect. C 100U0F +20% 16.0V 85C
Output PC	C847	11059320		Film. 1N0F +10% -10% 50.0V X7R
Output PC	C848	20267290		Film. 100N0F +80% -20% 50.0V Y5V
Output PC	C849	11059340		Film. 10N0F +10% -10% 50.0V X7R
Output PC	C850	20267290		Film. 100N0F +80% -20% 50.0V Y5V
Output PC	C851	20267290		Film. 100N0F +80% -20% 50.0V Y5V
Output PC	C852	20251930		Elect. C 22U0F +20% 16.0V 85C
Output PC	C853	20267290		Film. 100N0F +80% -20% 50.0V Y5V
Output PC	C854	20268840		Elect. C 1U0F +20% 50.0V 85C
Output PC	C855	20268840		Elect. C 1U0F +20% 50.0V 85C
Output PC	C856	20267290		Film. 100N0F +80% -20% 50.0V Y5V
Output PC	C857	20269020		Elect. C 100U0F +20% 16.0V 85C
Output PC	C858	20251930		Elect. C 22U0F +20% 16.0V 85C
Output PC	C859	20269020		Elect. C 100U0F +20% 16.0V 85C
Output PC	C860	20251930		Elect. C 22U0F +20% 16.0V 85C
Output PC	C861	20269020		Elect. C 100U0F +20% 16.0V 85C
Output PC	C862	20251930		Elect. C 22U0F +20% 16.0V 85C
Output PC	C863	20269020		Elect. C 100U0F +20% 16.0V 85C
Output PC	C864	20251930		Elect. C 22U0F +20% 16.0V 85C
Output PC	C865	20269020		Elect. C 100U0F +20% 16.0V 85C
Output PC	C866	20251930		Elect. C 22U0F +20% 16.0V 85C
Output PC	C867	11059440		Film. 10P0F +0P25F -0P25F 50.0V NP0

DISPLAY CIRCUIT PC BOARD

	CIRCUIT NO.	PART NO.		DESCRIPTION
		ICs		
Display PC	IC91	20920150		UPD16311GC-AB6 HIGH VOLTAGE DRIVER
Display PC	IC91	55009420		PT6311 VFD DRIVER
Display PC	RM91	55193920		NJL64H380A RECEIVER 38KHZ
		Transistor		
Display PC	Q701	55133180		DTC114YKA N 10K0 OHM 47K0 OHM
		Diodes		
Display PC	D901	70436540		1N4148 100.0V 150E-3A
Display PC	D902	70436540		1N4148 100.0V 150E-3A
Display PC	D904	70436540		1N4148 100.0V 150E-3A
Display PC	D905	20415060		1N4004 400.0V 1.0A
Display PC	LD91	55125510		D-LEM LTL-1CHE RD RND 3.0 DIFU 5.6CD
		Socket AS		
Display PC	CN92	55212780		WIRE CON ASY UNIQUE 7P 60MM UL1007 PVC DISCRETE 26
Display PC	CN93	55158680		WIRE CON ASY UNIQUE 2 80MM UL1007 PVC DISCRETE 26
Display PC	CN91	55543550		WIRE CON ASY 05235F 5P 230MM UL1007 PVC DISCRETE 26 1
		Socket		
Display PC	CP91	55078520		CONN 2.0MM 2 MA R NAT LW2003P02 0 0
		FL Display		

Display PC	FL91	55684080		DISPLAY 12-BT-159GNK
		Holder		
Display PC	0050	55678240		MLD HOLDER VFD DV-SP301
		Capacitors		
Display PC	C901	11059320		Film C 1N0F +10% -10% 50.0V X7R
Display PC	C902	20251250		Film C 47N0F +10% -10% 50.0V X7R
Display PC	C903	20267710		Elect. C 10U0F +20% 16.0V 85C 20251630
Display PC	C904	20267290		Film C 100N0F +80% -20% 50.0V Y5V
Display PC	C905	20267290		Film C 100N0F +80% -20% 50.0V Y5V
Display PC	C916	30938700		Film C 68P0F +5% -5% 50.0V NP0
Display PC	C917	30938700		Film C 68P0F +5% -5% 50.0V NP0
Display PC	C918	30938700		Film C 68P0F +5% -5% 50.0V NP0
Display PC	C919	30938700		Film C 68P0F +5% -5% 50.0V NP0
Display PC	C920	30938700		Film C 68P0F +5% -5% 50.0V NP0
Display PC	C921	30938700		Film C 68P0F +5% -5% 50.0V NP0
Display PC	C922	30938700		Film C 68P0F +5% -5% 50.0V NP0
Display PC	C923	30938700		Film C 68P0F +5% -5% 50.0V NP0
Display PC	C924	30938700		Film C 68P0F +5% -5% 50.0V NP0
Display PC	C925	30938700		Film C 68P0F +5% -5% 50.0V NP0
Display PC	C926	30938700		Film C 68P0F +5% -5% 50.0V NP0
Display PC	C927	30938700		Film C 68P0F +5% -5% 50.0V NP0
		Tact Switches		
Display PC	SW91	55145270		SWI TACT VERTICAL TACTILE F/B 50MI0A 12.0V 500MI0OHM 1T 1P
Display PC	SW92	55145270		SWI TACT VERTICAL TACTILE F/B 50MI0A 12.0V 500MI0OHM 1T 1P
Display PC	SW93	55145270		SWI TACT VERTICAL TACTILE F/B 50MI0A 12.0V 500MI0OHM 1T 1P
Display PC	SW94	55145270		SWI TACT VERTICAL TACTILE F/B 50MI0A 12.0V 500MI0OHM 1T 1P
Display PC	SW95	55145270		SWI TACT VERTICAL TACTILE F/B 50MI0A 12.0V 500MI0OHM 1T 1P
Display PC	SW96	55145270		SWI TACT VERTICAL TACTILE F/B 50MI0A 12.0V 500MI0OHM 1T 1P
Display PC	SW97	55145270		SWI TACT VERTICAL TACTILE F/B 50MI0A 12.0V 500MI0OHM 1T 1P
Display PC	SW98	55145270		SWI TACT VERTICAL TACTILE F/B 50MI0A 12.0V 500MI0OHM 1T 1P
		Resistors		
Display PC	R912	55261210		RCF 15R0 OHM +5% 250MI0W
Display PC	R913	55261210		RCF 15R0 OHM +5% 250MI0W
Display PC	R914	55261210		RCF 15R0 OHM +5% 250MI0W
Display PC	R915	55261210		RCF 15R0 OHM +5% 250MI0W
Display PC	R916	30939360		RCF 10R0 OHM +5% 250MI0W
Display PC	R917	11066420		RMGCFMIN 390R0 OHM +5% 100MI0W
Display PC	R918	80440510		RMGCFMIN 0 OHM +0% 100MI0W
Display PC	R919	80440510		RMGCFMIN 0 OHM +0% 100MI0W
		Finger		
Display PC	FG91	55209110		PIN-STRIP 0.0MM 1

MAIN CIRCUIT PC BOARD

	CIRCUIT NO.	**PART NO.**		**DESCRIPTION**
		ICs		
Main PC	IC21	5568753A		STM5589 PQFP208 MPEG VIDEO DECODER
Main PC	IC22	20940740		EEPROM M24C02WMN6
Main PC	IC23	55116380		FAN8082 MOTOR DRIVER
Main PC	IC24	55421050		BA18BC0FP TO252-3 LOW VOLTAGE DROP
Main PC	IC31	55156290		IC-DRAM 100M0 HZ 8N0 64M(1M*16*4) HY57V651620BTC-8 125M
Main PC	IC41	5552334A		MEMORY FLASH M29W160ET70N6
Main PC	IC51	55133310		M74HCU04M1R INVERTER HCT
Main PC	IC61	55291470		IC-CONV WM8728 D/A
		Transistors		
Main PC	Q201	20970460		KTC3875Y N 50V 150MI0A
Main PC	Q202	20970460		KTC3875Y N 50V 150MI0A
Main PC	Q203	20970460		KTC3875Y N 50V 150MI0A
Main PC	Q204	20970480		KTA1504Y P -50V -150MI0A
Main PC	Q206	55133180		DTC114YKA N 10K0 OHM 47K0 OHM
Main PC	Q207	55133190		DTA114YKA P 10K0 OHM 47K0 OHM
		Coils		

Main PC	L201	55188040		LF-SMD 2U2H +10%
Main PC	L202	55188040		LF-SMD 2U2H +10%
Main PC	L203	55188040		LF-SMD 2U2H +10%
Main PC	L204	55126670		F BEAD SURFACE MT 1000OHM FCM2012H-102T04
Main PC	L205	55126670		F BEAD SURFACE MT 1000OHM FCM2012H-102T04
Main PC	L206	55126670		F BEAD SURFACE MT 1000OHM FCM2012H-102T04
Main PC	L207	55185100		LF-SMD 22U0H +10%
Main PC	L208	55188040		LF-SMD 2U2H +10%
Main PC	L209	55188040		LF-SMD 2U2H +10%
Main PC	L211	10328750		RMGCFMIC 0 OHM +0% 62MI5W
Main PC	L301	55188040		LF-SMD 2U2H +10%
Main PC	L501	55126670		F BEAD SURFACE MT 1000OHM FCM2012H-102T04
Main PC	L601	10328750		RMGCFMIC 0 OHM +0% 62MI5W
Main PC	L602	10328750		RMGCFMIC 0 OHM +0% 62MI5W
		Diodes		
Main PC	D201	20414280		D-ZENER 1N5232B 5.6V 500MI0W
Main PC	D202	55165360		D-SLP RB441Q-40 40.0V 100MI0A
Main PC	D203	70436540		D-SLP 1N4148 100.0V 150E-3A
Main PC	D204	70436540		D-SLP 1N4148 100.0V 150E-3A
		Socket AS		
Main PC	CN25	55420050		2P 250MM UL1533 SHIELD 26 1
		Sockets		
Main PC	CP21	55124600		1.25MM 19 FE ST WH GF120-19S-TS 2794 A6
Main PC	CP22	55125910		1.0MM 15 FE ST BK 00-6232-015-006-800 0 0
Main PC	CP23	55125910		1.0MM 15 FE ST BK 00-6232-015-006-800 0 0
Main PC	CP24	55179440		1.25MM 27 FE ST WH GF120-27S-TS 2794 A4
Main PC	CP27	55090060		2.0MM 7 MA ST NAT LW2002P07 0 0
Main PC	CP28	55164790		2.5MM 02 MA ST BK 1649 C2
		Capacitors		
Main PC	C201	20267290		Film C 100N0F +80% -20% 50.0V Y5V
Main PC	C202	20267290		Film C 100N0F +80% -20% 50.0V Y5V
Main PC	C203	11059340		Film C 10N0F +10% -10% 50.0V X7R
Main PC	C204	20268940		Elect. C 100U0F +20% 10.0V 85C
Main PC	C205	11059340		Film C 10N0F +10% -10% 50.0V X7R
Main PC	C206	20268940		Elect. C 100U0F +20% 10.0V 85C
Main PC	C207	20267290		Film C 100N0F +80% -20% 50.0V Y5V
Main PC	C208	20267290		Film C 100N0F +80% -20% 50.0V Y5V
Main PC	C209	11059340		Film C 10N0F +10% -10% 50.0V X7R
Main PC	C210	20268940		Elect. C 100U0F +20% 10.0V 85C
Main PC	C211	11059440		Film C 10P0F +0P25F -0P25F 50.0V NP0
Main PC	C212	11059440		Film C 10P0F +0P25F -0P25F 50.0V NP0
Main PC	C213	11059440		Film C 10P0F +0P25F -0P25F 50.0V NP0
Main PC	C214	11059440		Film C 10P0F +0P25F -0P25F 50.0V NP0
Main PC	C215	20288040		CCCFMIC 100N0F +80% -20% 16.0V Y5V
Main PC	C216	30938740		Film C 470P0F +5% -5% 50.0V NP0
Main PC	C217	20267290		Film C 100N0F +80% -20% 50.0V Y5V
Main PC	C218	20288040		CCCFMIC 100N0F +80% -20% 16.0V Y5V
Main PC	C219	20267290		Film C 100N0F +80% -20% 50.0V Y5V
Main PC	C220	11059340		Film C 10N0F +10% -10% 50.0V X7R
Main PC	C221	20268940		Elect. C 100U0F +20% 10.0V 85C
Main PC	C222	20267290		Film C 100N0F +80% -20% 50.0V Y5V
Main PC	C223	20267290		Film C 100N0F +80% -20% 50.0V Y5V
Main PC	C224	20267290		Film C 100N0F +80% -20% 50.0V Y5V
Main PC	C225	20288040		CCCFMIC 100N0F +80% -20% 16.0V Y5V
Main PC	C226	10137340		CCCFMIC 68P0F +10% -10% 50.0V NP0
Main PC	C227	10137340		CCCFMIC 68P0F +10% -10% 50.0V NP0
Main PC	C228	20267830		Elect. C 47U0F +20% 16.0V 85C 20251640
Main PC	C229	20268620		Elect. C 470U0F +20% 6.3V 85C
Main PC	C230	20267830		Elect. C 47U0F +20% 16.0V 85C 20251640
Main PC	C231	20268940		Elect. C 100U0F +20% 10.0V 85C
Main PC	C232	20268940		Elect. C 100U0F +20% 10.0V 85C
Main PC	C233	20268620		Elect. C 470U0F +20% 6.3V 85C
Main PC	C234	20288040		CCCFMIC 100N0F +80% -20% 16.0V Y5V

Main PC	C235	11059440		Film C 10P0F +0P25F -0P25F 50.0V NP0
Main PC	C236	11058670		Film C 100P0F +5% -5% 50.0V NP0
Main PC	C237	11058670		Film C 100P0F +5% -5% 50.0V NP0
Main PC	C239	11058670		Film C 100P0F +5% -5% 50.0V NP0
Main PC	C240	11058670		Film C 100P0F +5% -5% 50.0V NP0
Main PC	C242	11059440		Film C 10P0F +0P25F -0P25F 50.0V NP0
Main PC	C243	11059440		Film C 10P0F +0P25F -0P25F 50.0V NP0
Main PC	C244	11059440		Film C 10P0F +0P25F -0P25F 50.0V NP0
Main PC	C245	10138550		CCCFMIC 1N0F +10% -10% 50.0V X7R
Main PC	C246	20288040		CCCFMIC 100N0F +80% -20% 16.0V Y5V
Main PC	C251	20267290		Film C 100N0F +80% -20% 50.0V Y5V
Main PC	C252	20268840		Elect. C 1U0F +20% 50.0V 85C
Main PC	C253	15002130		Elect. C 10U0F +20% 16.0V 85C
Main PC	C254	20269020		Elect. C 100U0F +20% 16.0V 85C
Main PC	C301	20267290		Film C 100N0F +80% -20% 50.0V Y5V
Main PC	C302	20267290		Film C 100N0F +80% -20% 50.0V Y5V
Main PC	C303	20267290		Film C 100N0F +80% -20% 50.0V Y5V
Main PC	C304	20267290		Film C 100N0F +80% -20% 50.0V Y5V
Main PC	C305	20267290		Film C 100N0F +80% -20% 50.0V Y5V
Main PC	C306	20267290		Film C 100N0F +80% -20% 50.0V Y5V
Main PC	C307	20267290		Film C 100N0F +80% -20% 50.0V Y5V
Main PC	C308	20267290		Film C 100N0F +80% -20% 50.0V Y5V
Main PC	C309	20267290		Film C 100N0F +80% -20% 50.0V Y5V
Main PC	C310	20267290		Film C 100N0F +80% -20% 50.0V Y5V
Main PC	C311	20268620		Elect. C 470U0F +20% 6.3V 85C
Main PC	C312	20267290		Film C 100N0F +80% -20% 50.0V Y5V
Main PC	C401	20267290		Film C 100N0F +80% -20% 50.0V Y5V
Main PC	C402	20267290		Film C 100N0F +80% -20% 50.0V Y5V
Main PC	C403	20267290		Film C 100N0F +80% -20% 50.0V Y5V
Main PC	C404	11059320		Film C 1N0F +10% -10% 50.0V X7R
Main PC	C405	11059320		Film C 1N0F +10% -10% 50.0V X7R
Main PC	C406	20268940		Elect. C 100U0F +20% 10.0V 85C
Main PC	C407	20267290		Film C 100N0F +80% -20% 50.0V Y5V
Main PC	C501	40435170		Film C 20P0F +5% -5% 50.0V NP0
Main PC	C502	60441080		Film C 22P0F +5% -5% 50.0V NP0
Main PC	C503	60441080		Film C 22P0F +5% -5% 50.0V NP0
Main PC	C504	20267290		Film C 100N0F +80% -20% 50.0V Y5V
Main PC	C505	20268940		Elect. C 100U0F +20% 10.0V 85C
Main PC	C601	20267830		Elect. C 47U0F +20% 16.0V 85C 20251640
Main PC	C602	11058710		Film C 560P0F +5% -5% 50.0V NP0
Main PC	C603	20268880		Elect. C 10U0F +20% 50.0V 85C
Main PC	C604	11058710		Film C 560P0F +5% -5% 50.0V NP0
Main PC	C605	20506540		CCCFMIC 10P0F +0P5F -0P5F 50.0V NP0
Main PC	C606	15002130		Elect. C 10U0F +20% 16.0V 85C
Main PC	C607	11058710		Film C 560P0F +5% -5% 50.0V NP0
Main PC	C608	20268940		Elect. C 100U0F +20% 10.0V 85C
Main PC	C609	20506540		CCCFMIC 10P0F +0P5F -0P5F 50.0V NP0
Main PC	C610	20506540		CCCFMIC 10P0F +0P5F -0P5F 50.0V NP0
Main PC	C611	20506540		CCCFMIC 10P0F +0P5F -0P5F 50.0V NP0
Main PC	C612	20506540		CCCFMIC 10P0F +0P5F -0P5F 50.0V NP0
Main PC	C613	20506540		CCCFMIC 10P0F +0P5F -0P5F 50.0V NP0
		Resonator		
Main PC	X501	55128980		FILQZ 27M0 HZ +15 PPM 50.0 OHM FUNDAMENTAL 16P5 F
		FFC		
Main PC	CC21	55318540		FFC-JUMPER 19X 1.25MM 70MM DV603
Main PC	CC24	55687510		FFC-JUMPER 27X 1.25MM 50MM TYPE C (TYPE BT)
		Terminals		
Main PC	GND1	55135980		GND TERMINAL (LUG)
Main PC	GND2	55135980		GND TERMINAL (LUG)

PACKING PARTS LIST

!: Safety part

REF. NO.	PART NO.		PART NAME	DESCRIPTION
50	55683300		Carton Box	**<B UDD>**
	55688200		Carton Box	**<B UUS>**
	55410420		Carton Box	**<G UUK>**
	55410470		Carton Box	**<G UUT>**
	55688100		Carton Box	**<S UDD>**
	55688310		Carton Box	**<S UUS>**
60	55683310		Pad Right	
70	55683320		Pad Left	
80	55683330		Instruction Manual	**<B UDD> <B UUS> <S UDD> <S UUS>**
	55706710		Instruction Manual	**<G UUK> <G UUT>**
90	55683340		POS Label	**<B UDD>**
	55410490		POS Label	**<G UUK> <G UUT>**
	55688710		POS Label	**<S UDD>**
	55688320		POS Label	**<B UUS>**
	55688720		POS Label	**<S UUS>**
110	55176530		Audio Cable	Stereo 1500MM BK
120	55169520		Sheet	820MM x 820MM
130	55030950		PE Bag	45MM x 80MM
140	55170650		PE Bag	260MM x 410MM
150	20194780		Cable Tie	
160	20715540		PE Bag	70MM x 250MM
170	55511980		Warranty Card	**<B UDD> <S UDD>**
180	5520874A		Cushion	80MM x 35MM
190	55186190		Coaxial Cable	1000MM OG
200	55167260		Remote Controller	DV-S353 W/O Battery
210	3010054		Battery	UM3 x 2
220	55236070		Conversion plug	**<B UUS> <G UUT> <S UUS>**
230	55743520		RI Cable	Audio Cable MONO 800MM
240	55429850		Cushion	160MM x 29MM 29MM
250	29110148		PP tape	

<B> : Black color model
<S> : Silver color model
<G> : Golden color model
<UDD>: North American and Canadian area only
<UUS>: South American area only
<UUT>: Asia area only
<UUK>: Korea area only

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